

July 9, 1929.

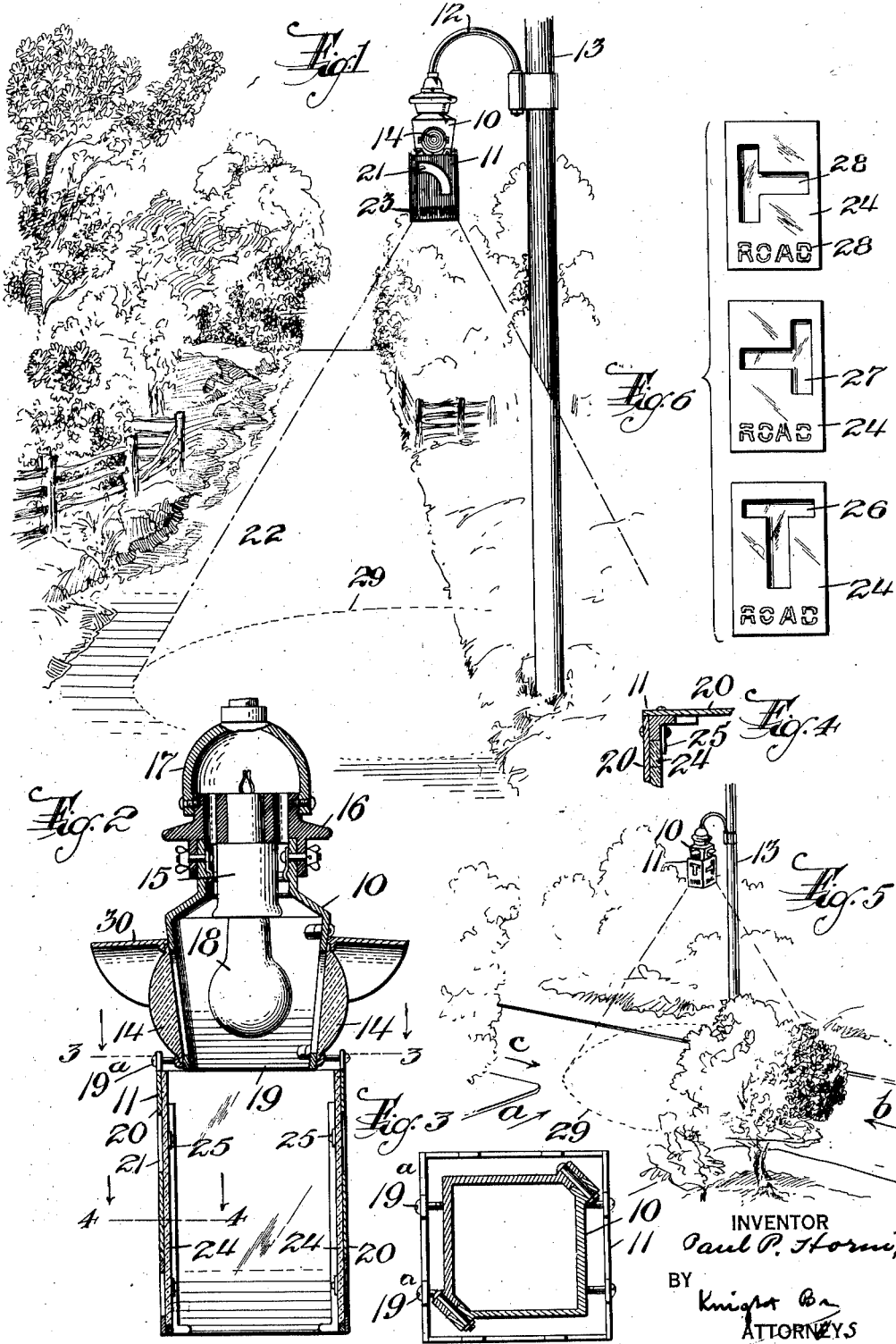
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ILLUMINATING SIGNAL

Filed April 5, 1926

2 Sheets-Sheet 1



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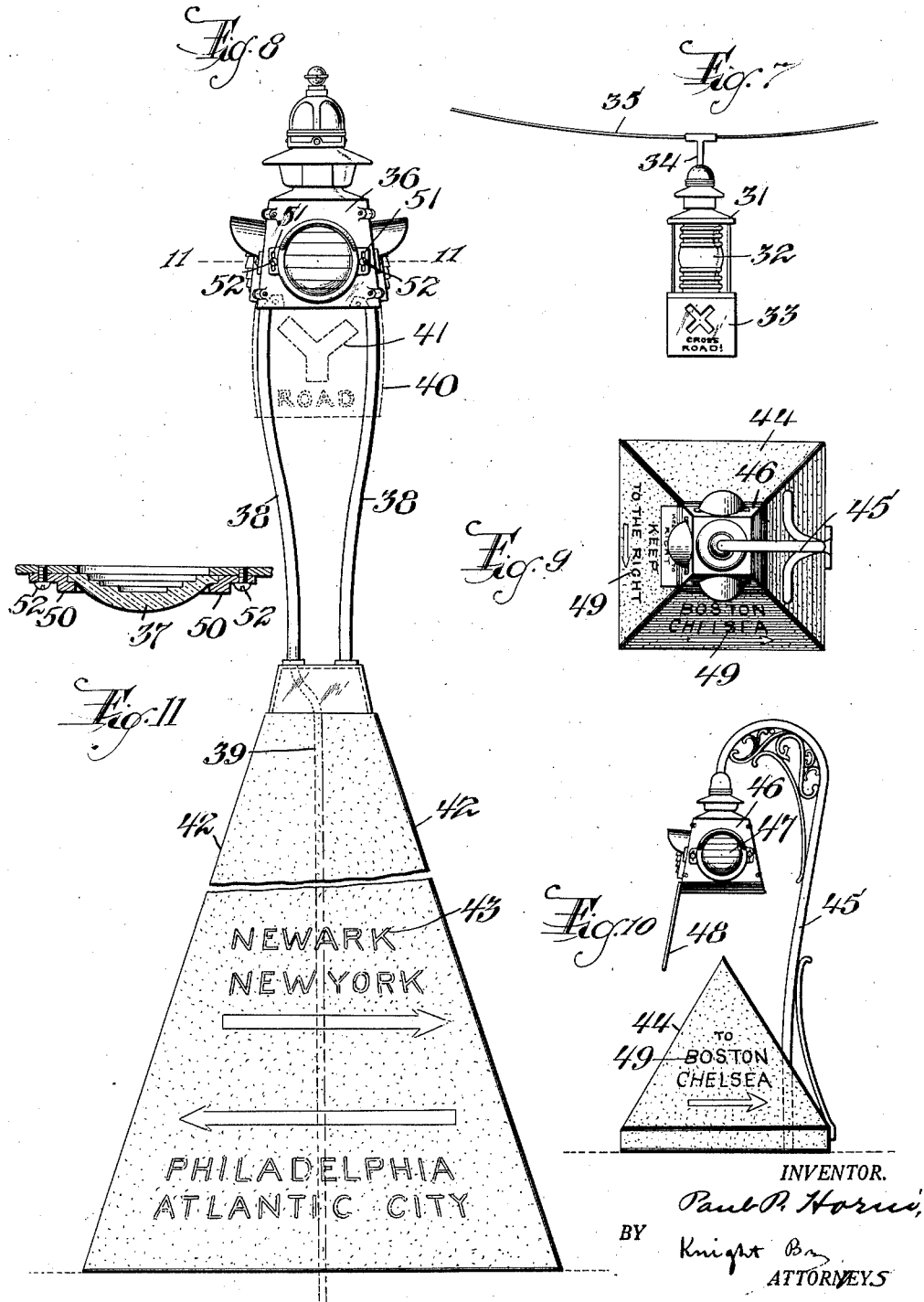
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# UNITED STATES PATENT OFFICE.

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## ILLUMINATING SIGNAL.

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This invention relates to an improved signal for use on roads and highways to serve as a traffic signal in so far as it calls attention to road conditions or conformations beyond the signal and also illuminates the road so that the driver is aware, by the band of light, that conditions requiring careful driving confront him.

The signal is designed to provide one in which a single light is all that is necessary to illuminate the sign and the road so that the maintenance cost is low. The device is preferably made so that attention is called to it by a caution signal, usually a colored lens, when the driver of the car is some distance away, and the particular conditions to be met can also be made out on the signal as the driver approaches the signal and if it happens that he has not been attracted by the sign and also in heavy or foggy weather, he is warned by the beam of light concentrated downward on the roadway so that he then knows that he must use care.

The invention is also designed to provide a signal which can be used to call attention, through the lens used in conjunction with the light, to its location and to direct the rays from the light downward to indicate an object such as a fire alarm box or any particular object to be pointed out.

The device is also adapted for use in conjunction with markers or signs on which it is mounted, not only acting as a beacon but also illuminating direction signs or road condition insignia used in conjunction therewith.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a view of a road showing a signal of the improved type in position above it.

Figure 2 is a vertical section of the signal shown in Figure 1.

Figure 3 is a horizontal section on line 3—3 in Figure 2.

Figure 4 is a section of the corner of the casing of the signal taken on line 4—4 in Figure 2.

Figure 5 is a general view to show the use of a signal where one road enters another.

Figure 6 is a view showing the insignia on different faces of the lamp used in the situation illustrated in Figure 5.

Figure 7 is a side view of a modified form of signal showing the manner in which it is connected to a cross wire so that it can be suspended over the center of the road or street.

Figure 8 is a side view of a signal mounted on a pedestal and adapted to be placed in the center of cross roads and in similar positions, the base carrying the direction insignia.

Figure 9 is a top view.

Figure 10 is a side view of a modified form of a combined pedestal and signal, being of the smaller type usually used where one road ends in another, and

Figure 11 is a detail section taken on line 11—11 in Figure 8.

The device comprises a casing for a lamp to be suspended above a road and the casing illustrated in Figures 1 to 5 comprises a housing 10 and a casing 11 beneath it, these being suspended above the road in any suitable manner, the drawings showing the bracket 12 by means of which the device is suspended from a pole 13.

The bracket 12 also is utilized in most cases for housing the wire that supplies current to the electric light. The housing 10 has caution signals usually in the form of lenses 14 which in some cases would be only in one face and in others in more than one face, according to the conditions of the road. The lenses are usually colored, amber or red being preferred as a cautionary color.

In the top of the housing is a socket 15 fastened to the insulator 16 which in turn is suspended from the dome 17 which has means for connecting it to the bracket 12. The socket 15 receives the lamp 18 which suspends therefrom and is preferably situated so that it shines directly through the lenses 14. The housing 10 has an open bottom as at 19.

Suspended below the housing is the casing 11, in the form shown the casing being secured by the screws 19<sup>a</sup>. The casing is open at the top and bottom. This open-ended casing is placed vertically underneath the housing and receives on its inner face light from the lamp 18 and also acts to direct the rays from the lamp downward on the road to form a band or circle of light of marked intensity.

I prefer to utilize the casing also for holding insignia to designate conditions beyond the lamp to an approaching driver. This insignia is usually placed on the casing by cutting out of the sides 20, symbols or words to indicate the course of the road and in Figure 1 I show at 21 a cut-away portion to show that the road 22 undergoes a sharp curve to the left just over the hill beyond, and in addition, I may supply the word "curve" in cut-away form as at 23 and behind this cut-away por-

tion I place a translucent plate usually of white or colored glass, this translucent plate being held in position by clips 25 so that it can be removed or changed if the lamp is to be moved to another position.

In Figures 5 and 6 I show a form of designation that well illustrates the functioning of the signal for drivers approaching from different directions, for instance, a driver approaching from the direction of arrow *a* looks at the signal 26 in Figure 6 which indicates that the road he is on ends at a cross road; one approaching from the direction of arrow *b* will see the designation at 27 which indicates that a side road can be expected at his left and one approaching from the direction of arrow *c* will observe on the face of the signal toward him, the insignia shown at 28 indicating that he is approaching a cross road on his right.

It will be evident that any of the standard symbols for forks, curves, steep grades and similar conditions can be used in this signal.

Due to its construction, the signal will be apparent to a driver when he is a considerable distance away where he can still see the signal considerably elevated above the roadway and this signal at night being illuminated by the lamp will also show to him the road insignia or designation. If he overlooks these or if they cannot be seen as in mist or storm, he will be warned when passing through the band or circle of light shown at 29 which is directed and concentrated by the casing 11 and the driver thereupon knows that he is approaching road conditions that require observation and care.

In the daytime the signal is easily seen because even if the light is not lit the outside plates 20 that form the casing are usually in contrast to the translucent glass or other plate 24, the outside of the casing being usually black and the translucent glass being usually white.

It will be evident that modifications can be made in the form and proportion of the parts without departing from the invention and that I may employ accessories such as the hoods 30 over the lenses for shielding the lenses and the casing from the elements.

In Figure 7 I show a modification in which the housing is shown at 31 and has the lens 32 in it which is of the lantern type open at the bottom so that the rays can be directed on the casing 33 which in the drawing indicates a cross road. The device can be suspended over the center of the cross road by means of any form of clip 34 suspended on a wire 35 stretched across the road.

In Figure 8 I show a housing at 36 which contains the lamp and is provided with lenses 37, the housing being mounted on the feet 38, these being usually pipes which can be arranged at each corner of the device and one of them used as a conduit for the wire 39

which supplies current to the light. The housing 36 is open at the bottom and the casing 40 carrying the desired insignia 41, is illuminated directly by the light and also acts as a shield to direct the rays downward on the pedestal 43. This pedestal is made substantially pyramidal and the faces being inclined they receive the light directly on them and when painted white or a light color and provided with the direction signals and insignia 43, they form a ready means for both warning and direction and also act as turning points or guides around which traffic must go.

For a low signal usually used at a point where one road ends at another, the pedestal is made smaller and lower, such pedestal being shown at 44 in Figures 9 and 10 and it can be supplied with a supporting bracket 45 usually made of pipe and also used to conduct the wire which supplies current to the light, the bracket 45 supporting the housing 46 and having the lenses 47 and being provided with a plate 48 to be provided with direction or condition insignia as similar to the casings 11, 33 and 40.

The sides of the base 44 are inclined and thus in the full glare of the light directed downward by the casing 46, since the casing 46 is open at the bottom or when closed is closed by a transparent sheet. The base 44 in the drawing is indicated as provided with the insignia 49. The lenses such as those illustrated at 14, 37 and 47, are usually of the rib type to project the rays in the desired direction and a slight change in the position of the lens provides an extensive change of position from which the rays from the lens are to be seen at their maximum brilliancy.

It will thus be evident that if the marker is placed on a grade and the rays are to be directed upwardly or downwardly from the horizontal, a slight change in the position of the lens will accomplish this. I have, therefore, provided a holder 50 for the lens, the holder having slots 51 at the side through which pass screws 52 into the housing. The screws provide for fastening the lens frame in position and the slots 51 provide for the vertical adjustment of the frame and consequently the lens which is carried by the frame.

It will be understood that the casing and the housing can be provided with signals and insignia according to the particular location, for instance, on cross roads all four faces would be so equipped, whereas on a straight road with curves or grades to be indicated, only one or two sides would be so equipped.

I claim:—

1. In a traffic signal, the combination comprising a housing with an open bottom, an open bottomed casing extending downward from the housing and having caution and con-

dition insignia on the side thereof for permitting light to pass through, and a lamp in the housing to illuminate the insignia on the casing from the inside and to be directed downwardly on the road to form a spot of light under the signal.

2. In a traffic signal, the combination comprising a housing having lenses in its faces and an open bottom, an open-ended casing suspended from the housing and having cut-out parts in its faces to indicate road conditions beyond the signal, a translucent plate in rear of the cut-out parts, and a lamp in the device for illuminating the lenses and the cut-out parts and the ground under the signal.

3. A signal comprising a pedestal with tapered sides, a housing supported above the pedestal, the housing having an open bottom, and a light in the housing, the housing directing the rays from the light on the tapered sides of the pedestal.

4. A signal comprising a pedestal with tapered sides, a housing supported above the pedestal, the housing having an open bottom, a light in the housing, the housing directing the rays from the light on the tapered side of the pedestal, a lens in the housing, and direction insignia on the tapered sides of the pedestal.

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