April 30, 1929. C. A. B. HALVORSON, JR 1,711,477

TRAFFIC SIGNAL

Original Filed Oct. 31, 1924 2 Sheets-Sheet 1

Fig. 1.

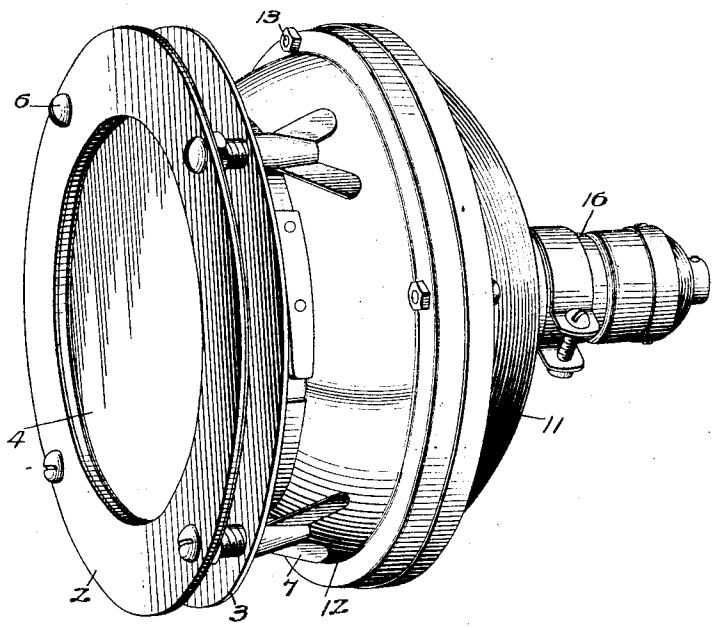


Fig. 2.

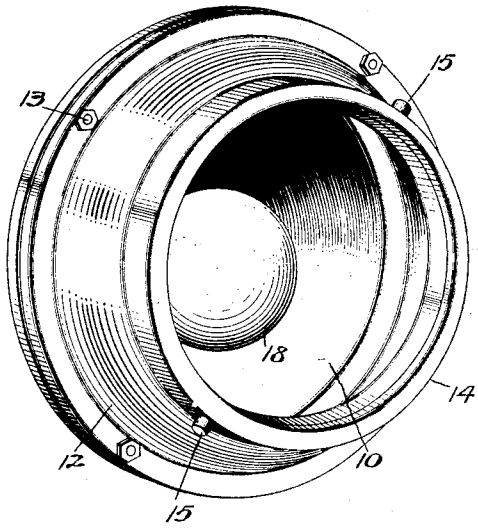
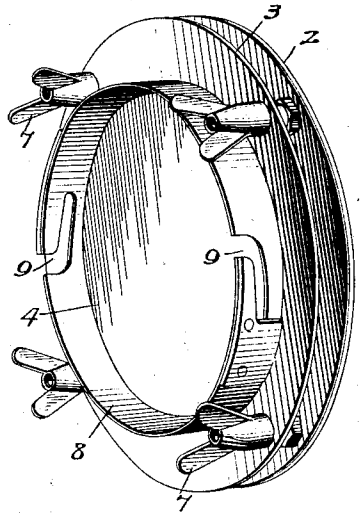


Fig. 3.



Inventor:
Cromwell A.B. Halvorson, Jr.,
by Alexander D. Lowe.
His Attorney.

April 30, 1929. C. A. B. HALVORSON, JR 1,711,477

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Original Filed Oct. 31, 1924 2 Sheets-Sheet 2

Fig. 4.

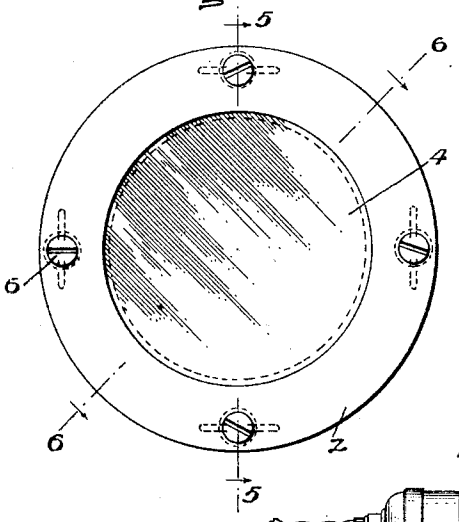


Fig. 5.

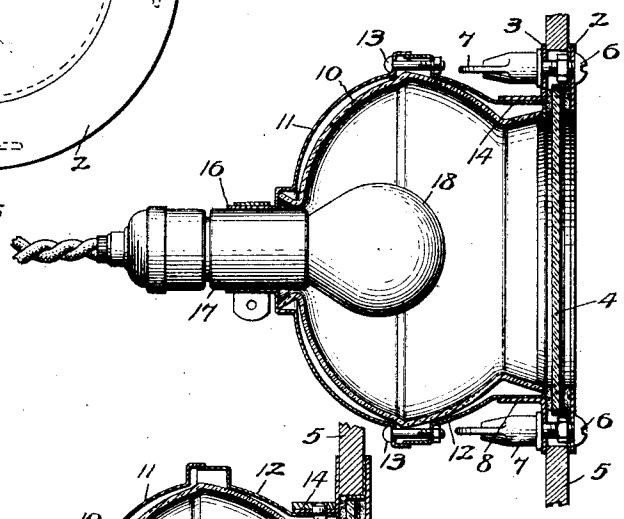


Fig. 6

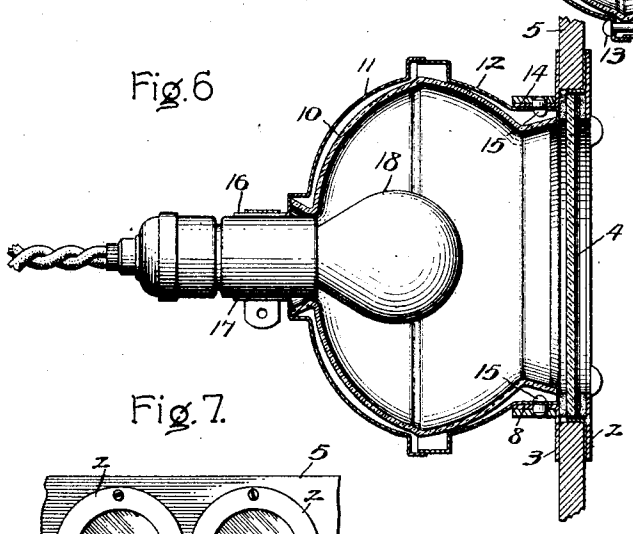
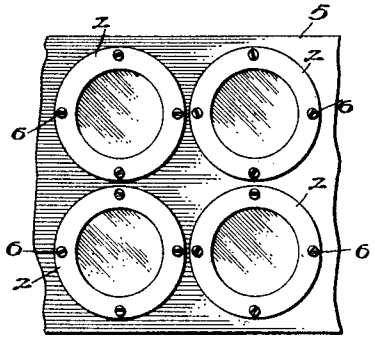


Fig. 7.



Inventor:
Cromwell A.B. Halvorson, Jr,
by Alexander S. Lamb
His Attorney.

Patented Apr. 30, 1929. 1,711,477

UNITED STATES PATENT OFFICE.

CROMWELL A. B. HALVORSON, JR., OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

TRAFFIC SIGNAL.

Application filed October 31, 1924, Serial No. 747,115. Renewed September 20, 1928.

My invention relates to traffic signals and among the objects of my invention are the following: to provide a unit with an effective and novel arrangement of parts, elements of support and of simple construction with the result that the unit may be used if desired exposed to the weather without the necessity of being located within an outer housing. Furthermore, with this type of unit ready access may be had to the inner elements and the unit may be readily and quickly dismounted from the panel support.

The details of the invention will be more readily understood by referring to the accompanying drawings in which Fig. 1 shows the unit in perspective with the lens element and the reflector element clamped together through the medium of a pin and slot lock shown in Fig. 2; Fig. 2 shows the reflector element alone, and Fig. 3 shows the lens element alone in perspective; Fig. 4 is a front view of a unit, and Fig. 5 is a side view in section of the same along the axis 5—5 of Fig. 4; Fig. 6 is a similar view of the unit along the axis 6—6, Fig. 4; Fig. 7 shows a number of the units mounted in place on the panel.

Referring more in detail to the drawings, it will be seen that the lens element, Fig. 3, comprises front and rear plates 2 and 3, respectively, between which the lens 4, Fig. 5, is clamped and between which the panel element 5, Fig. 5, is clamped by means of the screws 6 and winged nuts 7. It will be seen that the rear plate 3 is provided with an annular collar 8, Fig. 3, which is provided in turn with a bayonet lock slot 9. With this construction the lens element of the traffic unit may be permanently secured to the panel 5, Fig. 7, and in practice as many of these units are set up as may be necessary for the purpose of giving the necessary traffic signals, such as "Go", "Stop", "Right", "Left", etc. The reflector section of the unit, however, is arranged so that it may be removed in a moment's notice without the necessity of having to loosen bolts or other more or less stationary mechanical locking devices, as shown in Figs. 5 and 6. The reflector 10 is completely enclosed within a casing which comprises a rear concave element 11 and a front concave element 12 both of which are clamped together along the equatorial region of the element by means of bolts 13 and hold between them the reflector 10. The forward section of the casing 12 is provided with an annular collar 14, Fig. 2, which is provided in turn with pins 15. The annular collar 14 is adapted to be inserted within the annular flange 8, Fig. 3, so that the pins 15 enter the slots 9 whereupon the reflector element is locked in place and the pins are seated in the slots 9 as indicated in Fig. 6. The rear section 11 of the lens enclosing casing is formed with a rearwardly projecting collar 16 which serves as a bearing for the socket 17 which holds the light source 18 within the reflector. The reflector itself is, of course, provided with an opening through which the socket may project as shown in Figs. 5 and 6.

It will be seen, therefore, that the front of the panel may be made permanent while the sections of the light projector which extend to the rear of the panel may be quickly and readily removed and restored into place in case new lamps are to be substituted.

While I have described my invention in connection with a specific form of device disclosed in the drawings it will be understood that I do not wish to be limited to the specific construction shown inasmuch as the invention may be varied and modified without departing from the spirit thereof or from the scope of the claims therein.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a traffic signal device a panel support, a pair of clamping plates, an opening in said panel, a lens clamped in said opening between said plates, the circumferential region of the opening being also clamped between said plates, said panel serving as a support for the plates, a reflector element comprising a focalizing reflector and an enclosing casing for the reflector, and an opening through one end of the casing and of the reflector for receiving a lamp socket and a lamp in said socket projecting through said opening with the light source located within a region about the focus of the reflector and a pin and slot lock for clamping the reflector element to the panel to bring the reflector, the light source and lens into optical relation along a common axis.

2. In a traffic signal device a panel support, a pair of clamping plates, an opening in said panel, a lens clamped in said opening between said plates, the circumferential region of the opening being also clamped between said plates, said panel serving as a support for the plates, a reflector element com-

prising a focalizing reflector and an enclosing casing for the reflector, and an opening through one end of the casing and of the reflector for receiving a lamp socket, a lamp in said socket, a pin and slot lock for clamping the reflector element to the panel to bring the reflector, the lamp and lens into optical relation along a common axis, said lock comprising a collar on the support and a collar on the reflector element arranged to slide into one another, said pins being on one collar and said slots on the other collar.

3. A panel of traffic signals, each comprising a light projector and a lens, an opening in said panel for receiving said lens, and means for removably securing said projector to said panel behind said lens whereby a beam of light may be projected through the lens, said projector forming a unit comprising a light source and a reflector, means for securing said lens in said opening independently of said projector whereby the projector may be removed from the panel without removing the lens, the means for securing said projector to said panel comprising a mechanical device embodying a pin and slot lock and the means for securing the lens in said opening comprising a pair of plates clamped about said opening, one of said plates serving as means through which the projector is secured to said panel.

4. A projector comprising a globular reflector and a casing for enclosing said reflector formed in two sections, bolts for clamping and unclamping said sections about said globe whereby the sections may be separated and the globe removed or a new one substituted, the reflector having a front opening and the front section of the casing having a front opening, both openings arranged in juxtaposition and having a common axis, the rear part of the reflector being provided with an opening and the rear section of the casing being provided with a corresponding opening, both openings having a common axis.

5. A projector comprising a globular reflector and a casing for enclosing said reflector formed in two sections, means for clamping and unclamping said sections about said reflector whereby the sections may be separated and the globe removed or a new one substituted, the reflector having a front opening and the front section of the casing having a front opening, both openings arranged in juxtaposition and having a common axis, the rear part of the reflector being provided with an opening and the rear section of the casing being provided with a corresponding opening, both openings having a common axis, and a support for a light source for the projector, said light support, reflector and casing forming a unit, a panel, a lens in said panel, and means disposed about the front opening of the reflector for securing the unit to the panel in juxtaposition with the lens.

6. In a light projector, a panel, an opening in said panel, a lens in said opening, a pair of rings, the openings in said rings being smaller than the opening in the panel, means for clamping said panel between said rings with the rings overlapping the opening whereby said lens is imprisoned in said opening in the panel between said rings, one of said rings being provided with a flange disposed in a direction transverse the face of the panel, a source of light, and means for clamping said source to said flange in a position opposite the lens and along the axis of the lens for projecting light through and beyond the lens.

In witness whereof, I have hereunto set my hand this 30th day of October, 1924.

CROMWELL A. B. HALVORSON, JR.