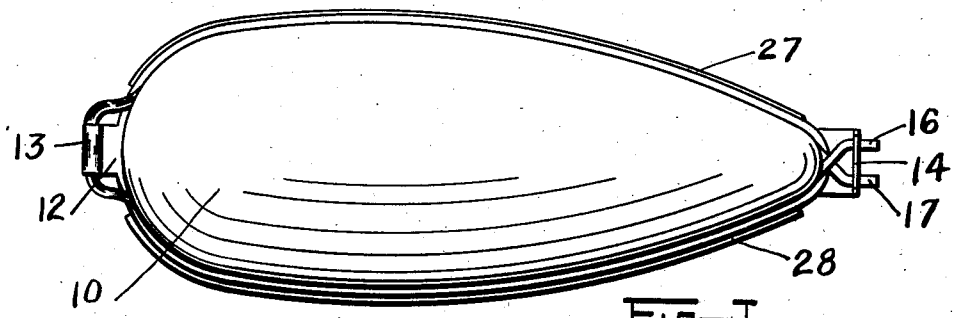
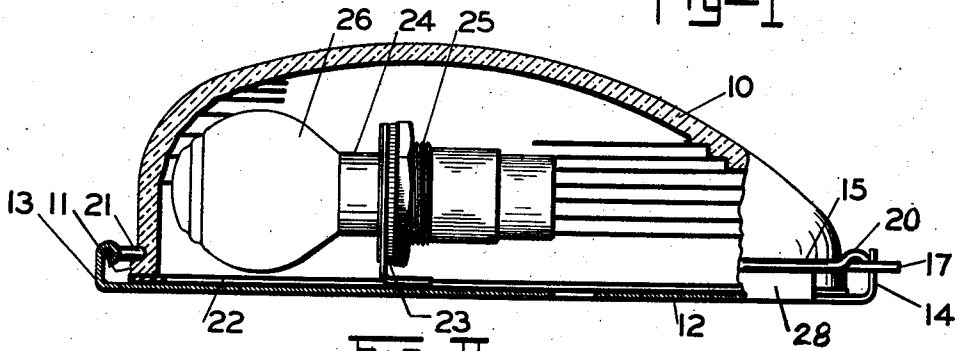
Sept. 13, 1932. V. E. CARBONARA 1,876,852

NAVIGATION LIGHT

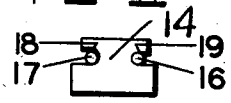
Filed Jan. 11, 1930



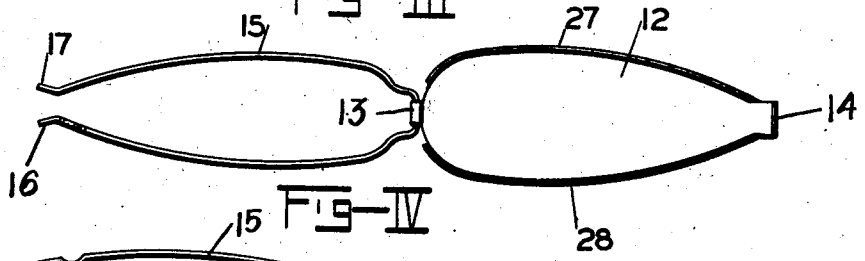
Fig—I



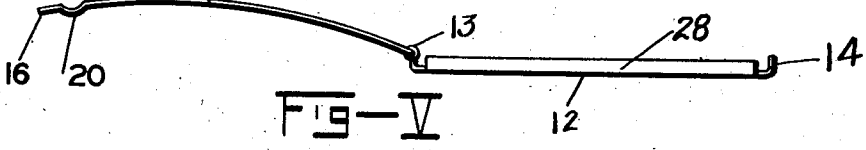
Fig—II



Fig—III



Fig—IV



Fig—V

INVENTOR.

BY V. E. CARBONARA

Cooper, Kerr & Dunham

ATTORNEYS.

Patented Sept. 13, 1932

1,876,852

UNITED STATES PATENT OFFICE

VICTOR E. CARBONARA, OF ROCKVILLE CENTER, NEW YORK, ASSIGNOR TO PIONEER INSTRUMENT COMPANY, INCORPORATED, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK

NAVIGATION LIGHT

Application filed January 11, 1930. Serial No. 420,057.

This invention relates to navigation lamps.

Among the objects of the invention is to provide a navigation lamp having but a few parts and which may be manufactured inexpensively and yet be dependable under the most extreme conditions. Another object of the invention is to provide a lamp mounting, having novel means for securing a shell or lens in place and which enables the ready replacement of a lamp or the cleaning of its shell or lens. Other objects of the invention will appear from a detailed description of the same which consists of the features of structure and combination of parts hereinafter described and claimed.

In the drawing I have illustrated a preferred embodiment of my invention and Fig. I is a plan thereof embodied in an aeronautical navigation lamp.

Fig. II is an elevation of the lamp shown in Fig. I with part of its shell or lens broken away.

Fig. III is a detail view of the bracket by which the lens-retaining means is held in locked position.

Fig. IV is a plan of the base-plate and lens-retaining loop in an open position.

Fig. V is a side elevation of the base-plate and lens-retaining loop illustrated in Fig. IV.

Aeronautical navigation lamps are designed so as to be capable of mounting on vertical and horizontal surfaces and possess a stream line form. In the navigation lamp of my invention the lens is the only portion thereof which is exposed to air and it is therefore only necessary that the lens, 10, be given a stream-line form. Accordingly, the lens has a hollow concave form with an open side bordered by a curvilinear edge finished as a flange, 11. The open side of the lens is closed by a base-plate, 12, having an area substantially equal to the open area and flange of the lens, 10.

In the interest of simplicity the base-plate, 12, may be made out of a metal-stamping and in this event the hinge, 13, would be bent and formed from the material of the base plate, as shown in Fig. II. For the same reason it is convenient to form the bracket, 14, of the material of base-plate, 12. Hinge, 13, and bracket, 14, are means by which a lens-retaining loop, 15, may be maintained in engaging relation with the lens for the purposes of securing the lens to the base-plate.

Preferably, the lens-retaining loop may be formed of a metallic wire which takes the general shape of the lens, 10, and it can be easily sprung laterally of the lens for the purpose of engaging and disengaging the open ends, 16, 17, with bracket, 14, when the lens is held in a mounted position. For ensuring firmness of fit between the lens and base-plate it is convenient to form the split-loop, 15, with its ends, 16, 17, spaced apart as illustrated in Fig. IV and with its side-portions curved away from the base-plate, as illustrated in Fig. V. A resilient split-loop having an initial normal form of such configuration will firmly girdle the lens and also urge the same against the base-plate.

Bracket, 14, has two slots, 18, 19, which engage the ends, 17, 16, respectively, of the split-loop, 15, when the lens is mounted on the base-plate. A crimp, 20, is provided on one of the ends, 16, so as to enable the slots, 18, 19, to be placed in bracket, 14, opposite each other at the same height. While this arrangement of slots, 18, 19, is a symmetrical one its main attribute resides in the locking security obtained by the cooperation of the crimp, 20, and engaged relation of ends, 17, 16, of the split-loop. Lens, 10, is provided with a groove, 21, of sufficient size to accommodate the thickness of the wire of loop, 15.

As is usual with lights having a lens, shell or cover-plate enclosing a lamp, a gasket, 22, is provided to maintain clean and dry the interior of the light. Extending from the base-plate, 12, is a lamp mounting which consists of a bracket, 23, and a socket, 24, th suitable means, 25, for securing the same to the bracket. The position of the lamp mounting is such as to maintain the lamp, 26, in the position desired. In order to assure juxtafixation of the lens, 10, to the base-plate, flanges, 27, 28, are provided. These flanges may be bent-up from the material of the

base-plate, 12, and their form is such that when the lens, 10, is mounted in place, the flanges will contact the bordering flange, 11, of the lens.

While I have disclosed my invention in connection with an aeronautical navigation lamp of a particular design, it is apparent that the invention may serve to associate a lens or shell having another form to a base-plate of suitable form and that other alterations and modifications coming within the scope of the appended claims are contemplated.

What is claimed is:

1. The combination with a base-plate, a lamp mounting carried thereby and a lens enclosing the lamp mounting, of means for detachably securing the lens to the base-plate, said means consisting of a lens-engaging loop having two ends which may be sprung laterally of the lens to release the same and which are locked together to hold the lens in position when engaging the same, and means for pivotally mounting said lens-engaging loop on said base-plate.

2. A lamp mounting for a navigation lamp comprising a base-plate, means extending from said base-plate for supporting a lamp, a lens enclosing the lamp and supporting means therefor, said lens having an open area substantially equal to the area of said base-plate and a groove adjacent and bordering its open area, an open end loop pivotally supported on said base-plate, and means holding the ends of the loop in locked position to maintain the loop in the groove of said lens whereby the lens is secured to the base-plate.

3. A lamp mounting for a navigation light comprising in combination a base plate, means extending from said base plate for supporting a lamp, a lens enclosing said lamp supporting means, said lens having a substantially planar open side adapted to be closed by said base plate, and means for detachably securing the lens to the base plate, said means comprising a resilient lens-engaging member having separable ends which are adapted to be locked together and having a portion thereof pivotally secured to said base plate, and means for detachably connecting the ends of said resilient member to the base plate when the lens is held thereby.

4. A lamp mounting for an aircraft navigation light comprising in combination a substantially flat base plate having an oval shaped contour, means extending from said base plate for supporting a lamp with its longitudinal axis parallel to the base plate, a lens enclosing said lamp supporting means, said lens having a stream-line surface for reducing the wind resistance thereof and a substantially planar open side adapted to be closed by said base plate, means for detachably securing the lens to the base plate, said means comprising a resilient lens-engaging member having separable ends which are adapted to be locked together and having a portion pivotally secured to said base plate, and means for detachably connecting the ends of said resilient member to the base plate when the lens is held thereby.

5. A lamp mounting for an aircraft navigation light comprising a base plate of substantially oval shaped contour, means extending from said base plate for supporting a lamp with its longitudinal axis substantially parallel to the major axis of the base plate, flanges extending from said base plate adapted to engage the periphery of a lens, means for retaining a lens in position on said base plate, said retaining means comprising a split loop having the closed end thereof pivotally secured to the base plate, and means for closing the open end of the loop and securing it to the base plate.

6. A lamp mounting for an aircraft navigation lamp comprising a base plate of substantially oval shaped contour and having a hinge-like member at one end thereof and formed integrally therewith, a bracket extending from said base plate for supporting a lamp with its axis parallel to the major axis of the base plate, an open-end loop pivotally supported on said base plate by said hinge-like member, and means at the other end of the base plate for securing the loop in locked position with the base plate when a lens is placed in juxtaposition to said base plate.

In testimony whereof I hereto affix my signature.

VICTOR E. CARBONARA.