C. ELLIOT.

SIGN.

APPLICATION FILED MAY 29, 1911.

1,110,910.

Patented Sept. 15, 1914.

Fig. 1.

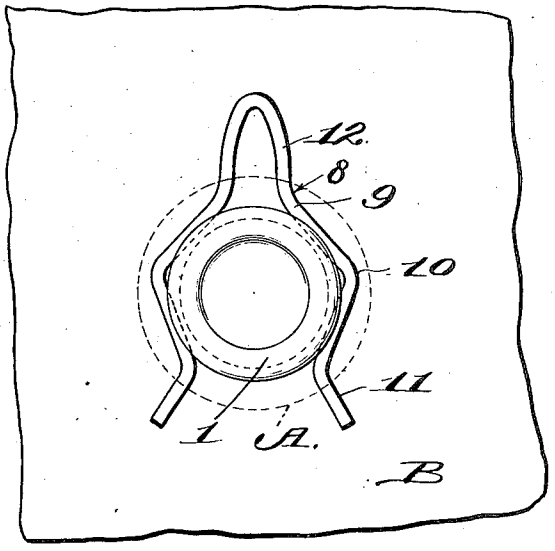


Fig. 2.

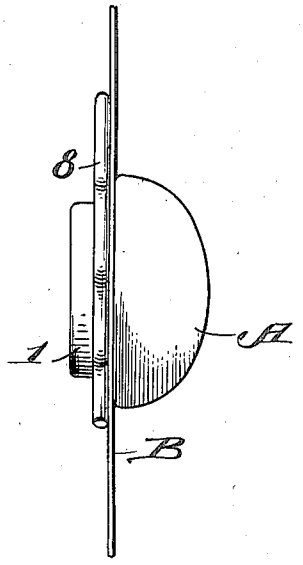


Fig. 3.

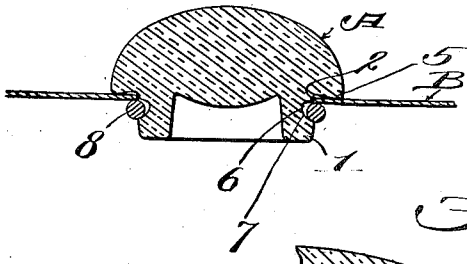
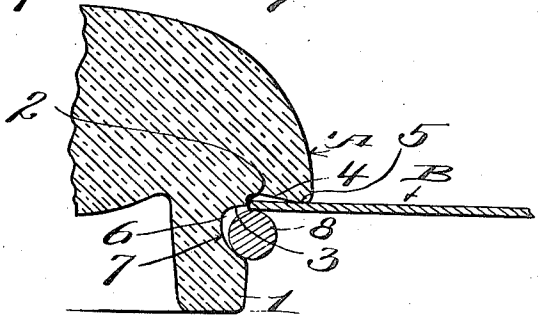


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

CALEB ELLIOT, OF CLINTON, IOWA.

SIGN.

1,110,910. Specification of Letters Patent. Patented Sept. 15, 1914.

Application filed May 29, 1911. Serial No. 629,975.

To all whom it may concern:

Be it known that I, CALEB ELLIOT, a citizen of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented new and useful Improvements in Signs, of which the following is a specification.

This invention relates to improvements in signs of that type which embodies a casing inclosing one or more electric lamps and having its front wall fitted with lenses which are arranged to form letters, words, symbols, or ornamental configurations.

The invention relates more particularly to the manner of connecting the lenses and the plate with which they are associated, and it has for its object to provide a connection of simple and inexpensive character and of such nature that the opening in which the shank of the lens is fitted is efficiently sealed against the entrance of moisture.

An embodiment of the invention is disclosed in the accompanying drawings, wherein—

Figure 1 is a rear elevation of the plate which carries the lenses, showing more particularly the relation of the lens locking key. Fig. 2 is a section through said plate, showing a lens and locking key in side elevation. Fig. 3 is a section through said plate and through a lens fitted therein, and Fig. 4 is an enlarged detail section in the same plane as Fig. 3.

Similar characters of reference designate corresponding parts throughout the several views.

The lens is indicated generally by the letter A and the plate with which it is associated by the letter B. The lens is provided with a shank 1 of reduced diameter and circular contour and which is circumscribed by a shoulder 2. The plate B has a circular opening 3 through which the shank 1 is inserted and in which the shoulder 2 has a relatively snug fit. The lens has the portion of its under face which surrounds the shoulder 2, grooved as at 4, the groove 4 having such extent as to afford an annular bearing shoulder 5 at the outer edge of the lens and against which the plate B is held. The shank 1 is formed with an annular groove 6, which is of non-circular cross section so that a substantial cam surface 7 is provided.

To positively secure the lens to the plate, a locking key 8 is employed, which is preferably of the form shown and consists of a section of resilient wire fashioned to afford coacting legs 9, which tend to spring together and have midway of their length angular bends 10. The key 8 is perfectly flat so that it can lie in contact throughout its extent with the inner surface of the plate B and its legs 9 are engaged in the groove 6, such engagement being had, owing to the contour of said legs at four substantially equidistant points, as shown in Fig. 1. In fitting a lens to the plate B one of the legs 9 is engaged in the groove 6, and the other leg is forced laterally and outwardly over the inner face of the shank until it passes the edge thereof, at which time it snaps into the groove. To facilitate the manipulation of the legs of the key, the extremities of said legs are out-turned as at 11, and the inner connected portions 12 of said legs are extended angularly from the bends 10, so as to have a relatively close association. When the key 8 is engaged in the groove 6, in the manner explained, its legs 9, having a tendency to spring together, and acting on the cam face 7, force the lens inwardly, whereby the shoulder 5 bears with considerable pressure against the plate B. The key 8 at the same time serves as a positive lock for the lens, owing to the fact that it lies partly in the groove 6 and partly against the plate B. Said key also tends to produce a slight displacement of portions of the plate B immediately surrounding the opening 3, into the groove 4 and the effect of this action is to augment the security of the engagement of the shoulders and said plate, such engagement being, by reason of the effects stated, amply sufficient and uniform to provide against the entrance of moisture through the opening 3.

The particular construction of the key 8 is of advantage since it enables said key to be readily and quickly engaged and disengaged in a manner which produces as little stress as possible on the key itself.

Having fully described my invention I claim:

1. In a sign, in combination, a plate having an opening, a lens having a shank which is inserted through the opening and having a shoulder circumscribing the shank and which fits snugly within the opening, the under face of the lens adjacent the shoulder

being fashioned to bear against the plate, the shank having an annular groove immediately adjacent the shoulder which groove has a cross section that provides a cam face, and a lens locking key composed of a section of resilient wire fashioned to provide coacting legs which are engaged in the groove at opposite sides thereof and lie partly in the groove and partly against the plate, said legs acting on the cam face and tending to draw the lens inwardly and to cause a secure contacting engagement between the underface of the lens and the portion of the plate adjacent thereto.

2. In a sign, in combination, a plate having an opening, a lens having a shank which is inserted through the opening, having a shoulder circumscribing the shank, and having a groove immediately adjacent the shoulder, the latter fitting snugly within the opening, the shank having an annular groove immediately adjacent the shoulder which groove has a cross section that provides a cam face, and a lens locking key composed of a section of resilient wire fashioned to provide coacting legs which are engaged in the groove in the shank at opposite sides thereof and lie partly in the groove and partly against the plate, said legs acting on the cam face and tending to draw the lens inwardly and to cause a secure contacting engagement between the underface of the lens and the portion of the plate adjacent thereto, the legs also acting on the plate and tending to produce a slight displacement thereof into the first named groove.

3. In a sign, in combination, a plate having an opening, a lens having a shank which is inserted through the opening, having a shoulder circumscribing the shank, and having a groove immediately adjacent the shoulder, the latter fitting snugly within the opening, the shank having an annular groove immediately adjacent the shoulder which groove has a curved cross section, and a lens locking key composed of a section of resilient wire fashioned to provide coacting legs which are engaged in the groove in the shank at opposite sides thereof, and lie partly in the groove and partly against the plate, said legs acting on the plate and tending to produce a slight displacement thereof into the first named groove.

4. In a sign, in combination, a plate having an opening, a lens having a reduced shank which is inserted through the opening, having a shoulder circumscribing the shank, and having a groove adjacent the shoulder, the latter fitting snugly within the opening, the shank having an annular groove adjacent the shoulder which groove has a cross section that provides a cam face and a lens locking key which consists of a section of resilient wire fashioned to provide resilient legs, each leg having an intermediate bend and an out-turned extremity, the connected inner portions of the legs extending at an angle from the bends and having a relatively close association, the legs engaging in the groove in the shank at opposite sides thereof and lying partly in the groove and partly against the plate, the legs acting on the cam face and tending to draw the lens inwardly and to cause a secure contacting engagement between the underface of the lens and the portion of the plate adjacent thereto, the legs also acting on the plate and tending to produce a slight displacement thereof into the first named groove.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CALEB ELLIOT.

Witnesses:
JOHN HANSEN,
ALBERT HART.