

1,241,886.

L. L. ROWE.
LENS,
APPLICATION FILED JULY 12, 1916.

Patented Oct. 2, 1917.

Fig. 1.

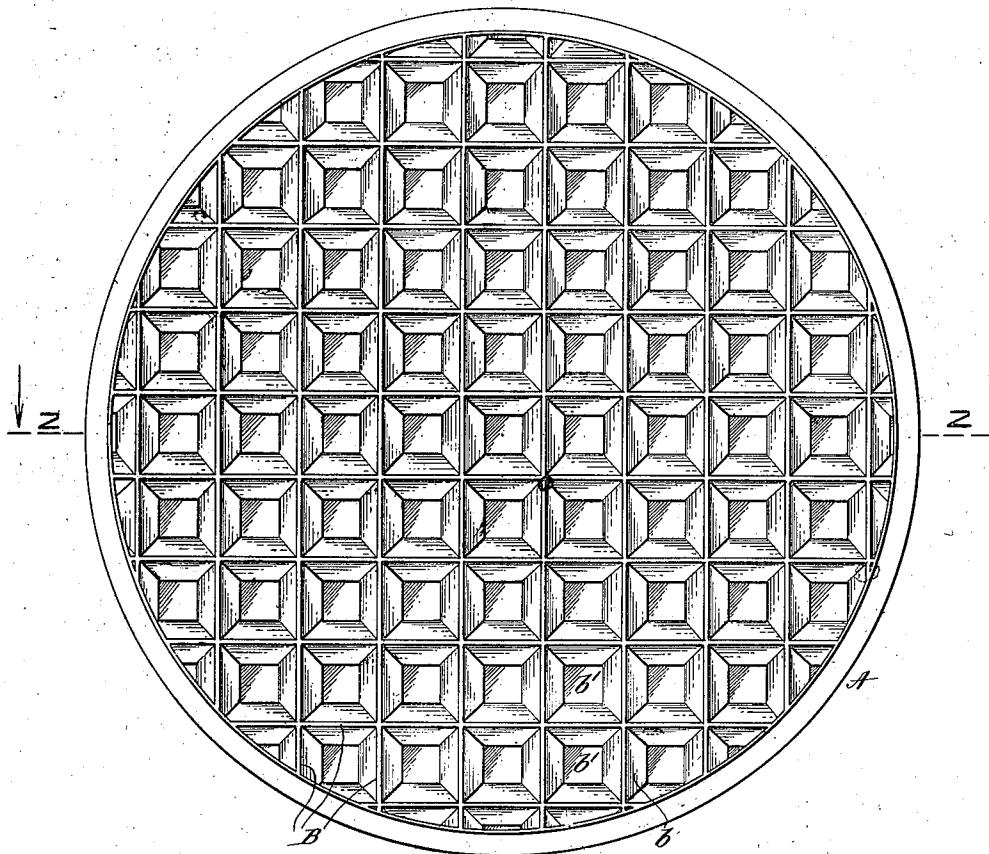
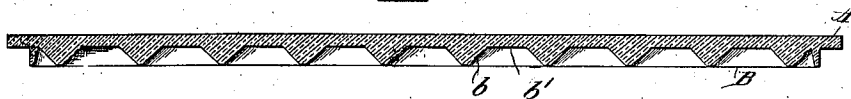


Fig. 2.



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UNITED STATES PATENT OFFICE.

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LENS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEVI LEROY ROWE, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Lenses, of which the following is a specification.

My invention relates to that type of lens ordinarily used in the head lights of motor vehicles. The invention has for its object the providing of a lens which not only eliminates the blinding glare of the ordinary spotlight hitherto used on such vehicles and which is at present contrary to law but also diffuses the light upon the highway both directly in front of and to either side of the machine. It is a well known fact that, by reason of the powerful electric lights combined with a strong reflector commonly used in modern automobiles, dangerous situations frequently occur due to the blinding glare caused by these lights and as a result frequent accidents have occurred to pedestrians, operators and drivers of horse-drawn vehicles. The same has been true in connection with street cars in the outlying districts which are usually equipped with search lights for use on darkened suburban roads.

To remedy this dimmers were first employed, various laws having been passed in different communities. The result was to cause practically the same dangerous situation at the other extreme, the dimmers either causing insufficient light or affecting the lights in such a way that the light was thrown directly before the car and not far enough ahead and not at all to either side of the machine. This being therefore found ineffective various other devices have been used to tone down the lights, and further ordinances have been passed in this respect.

With these facts in mind and further having in mind the fact that the majority of ordinances provide for a strong light which shall not however be dazzling at a certain height a certain distance in front of the machine and must yet be thrown to either side of the machine, I have invented the present device of which the following is the specification.

My invention will best be understood with reference to the drawings in which:—

Figure 1 is a plan view of the inside of

the lens and Fig. 2 is a cross section on the line 2—2 of Fig. 1.

One face of the lens A is composed of a number of recessed or indented portions or figures B arranged in rows as shown in Fig. 1. The size of the lens can be varied according to the number of these portions or figures used. While the form of these indented portions or figures may vary, as shown each is rectangular in shape, the sides or faces *b* of the portions or figures B inclining inwardly to a central flat portion or face *b*¹. In other words, each of the portions or figures B is of the inverted shape of the frustum of a pyramid, and the flat parts or faces *b*¹ of the several portions or figures B form part of the flat front face of the lens, or the face thereof opposite the indented figured face. As a result of this construction, the rays of light are thrown off from the reflector through the various faces at different angles according to well known laws of physics. Instead of a blinding glare in one spot a soft, mellow yet bright and penetrating light is obtained both directly in front of and to some distance on either side of the machine. The flat center portions *b*¹ tend to throw rays to the front, while the inclined sides *b* shoot the rays to all sides and tend to cooperate with the parts *b*¹ to blend and intensify the center rays. Thus the action of the lens as a whole is to reflect the rays equally in all directions causing a bright light which however will not blind one approaching.

It is obvious that my device may be constructed in various ways but I prefer to make my lens out of one piece, the glass being pressed in a mold into proper shape. It is possible to construct each of the portions separately leaving a flat surface between each portion thus having a further flat surface to intensify the direct rays.

What I claim is:—

1. A lens having one flat face and an opposite indented face composed of recessed portions or figures arranged in rows and each of which has inwardly inclined sides and a flat inner central part or surface.

2. A lens having one flat face and an opposite indented face composed of recessed rectangular portions or figures arranged in rows and each of which has four equal, in-

wardly inclined sides and a flat inner central part or surface, said portions or figures being thus of the inverted shape of the frustum of a pyramid.

- 5 3. A lens formed of a single piece of glass and having one flat face and an opposite indented face composed of recessed rectangu-

lar portions or figures arranged in rows and each of which has four equal, inwardly inclined sides and a flat inner central part or surface, said portions or figures being thus of the inverted shape of the frustum of a pyramid.

LEVI LEROY ROWE.