O. M. OTTE.

AUTOMOBILE LAMP.

APPLICATION FILED JULY 17, 1917.

1,266,524.

Patented May 14, 1918.

3 SHEETS—SHEET 1.

Fig. 1.

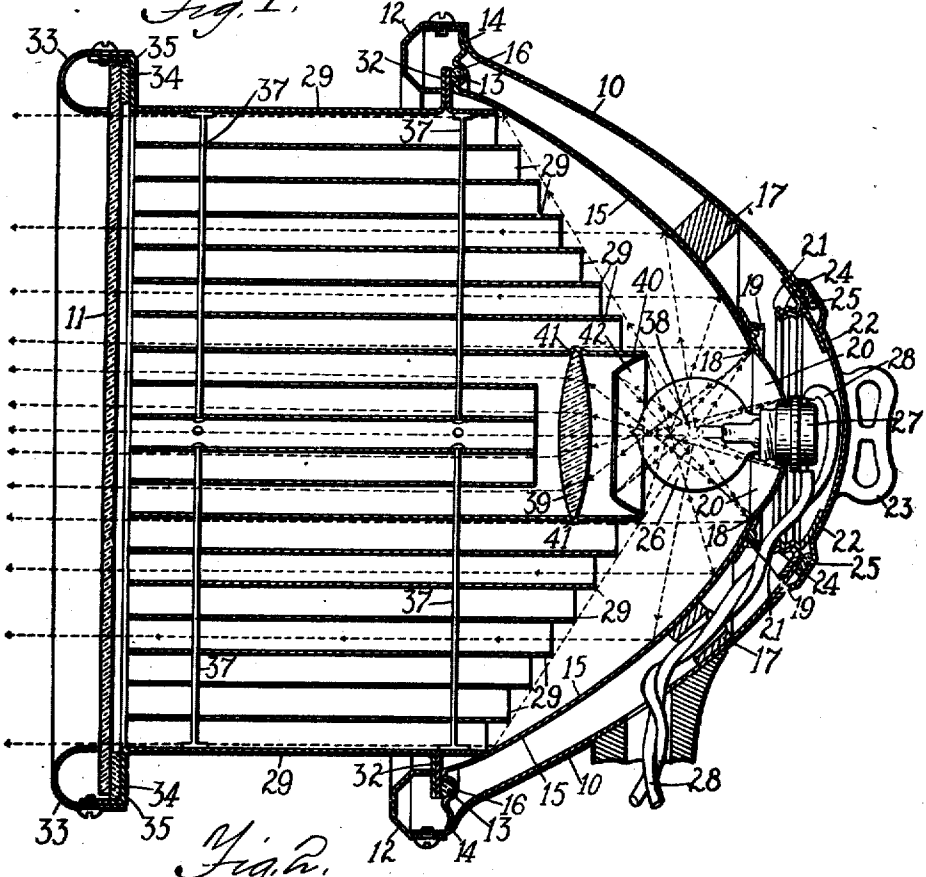
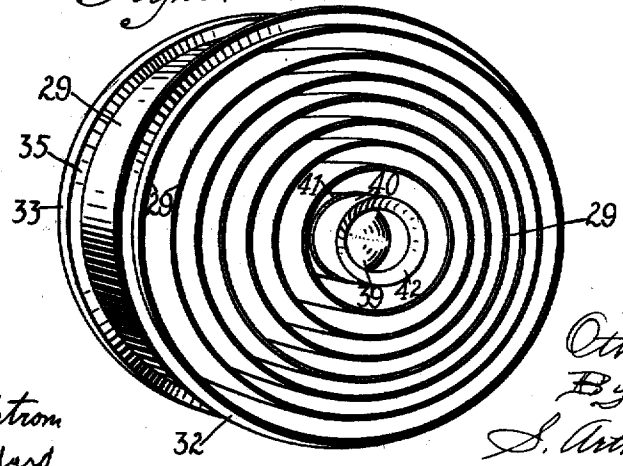


Fig. 2.



Witness

J. E. Nordstrom

H. A. Sandberg

Inventor

Otho M. Otte

By

S. Arthur Baldwin

Attorney

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3 SHEETS—SHEET 2.

Fig 3.

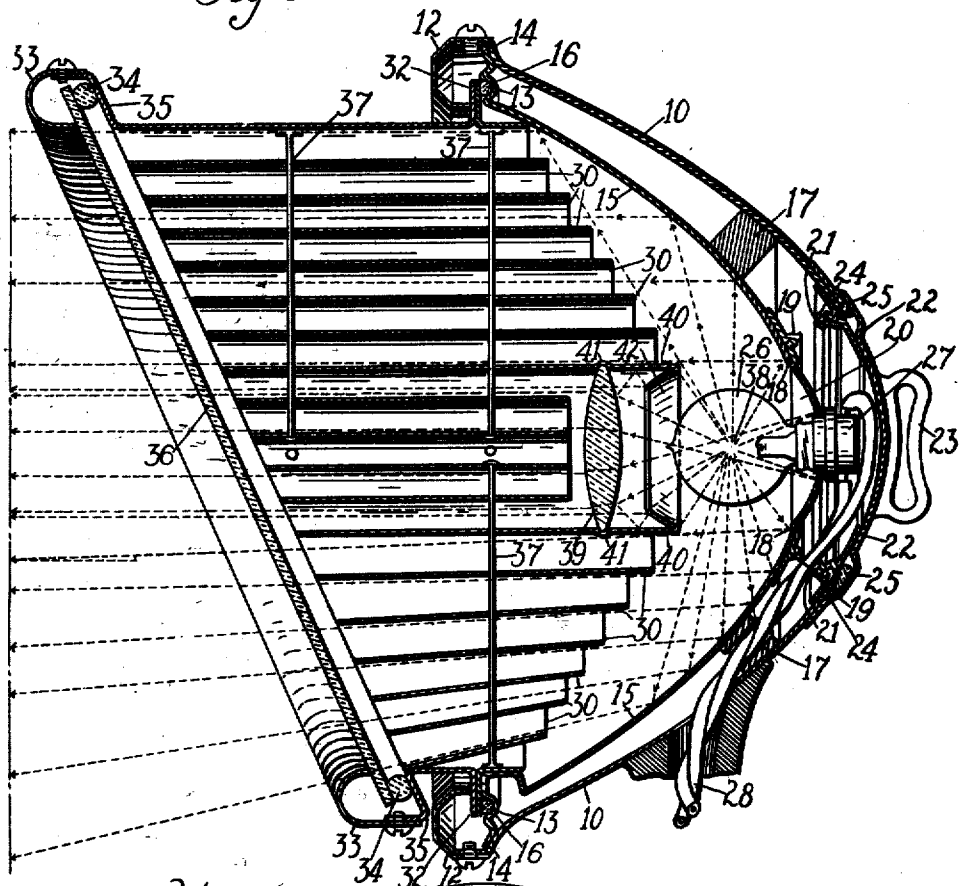
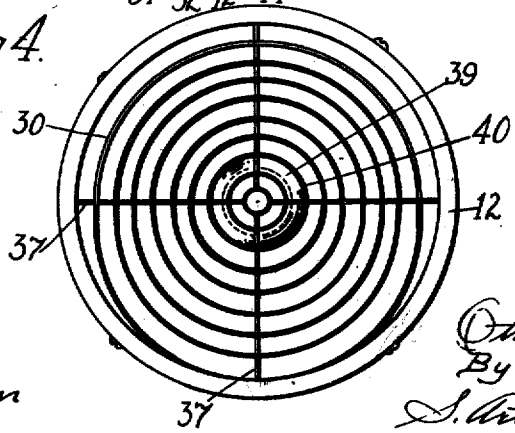


Fig 4.



Witness

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H. A. Sandberg

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Otho M. Otte

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Attorney

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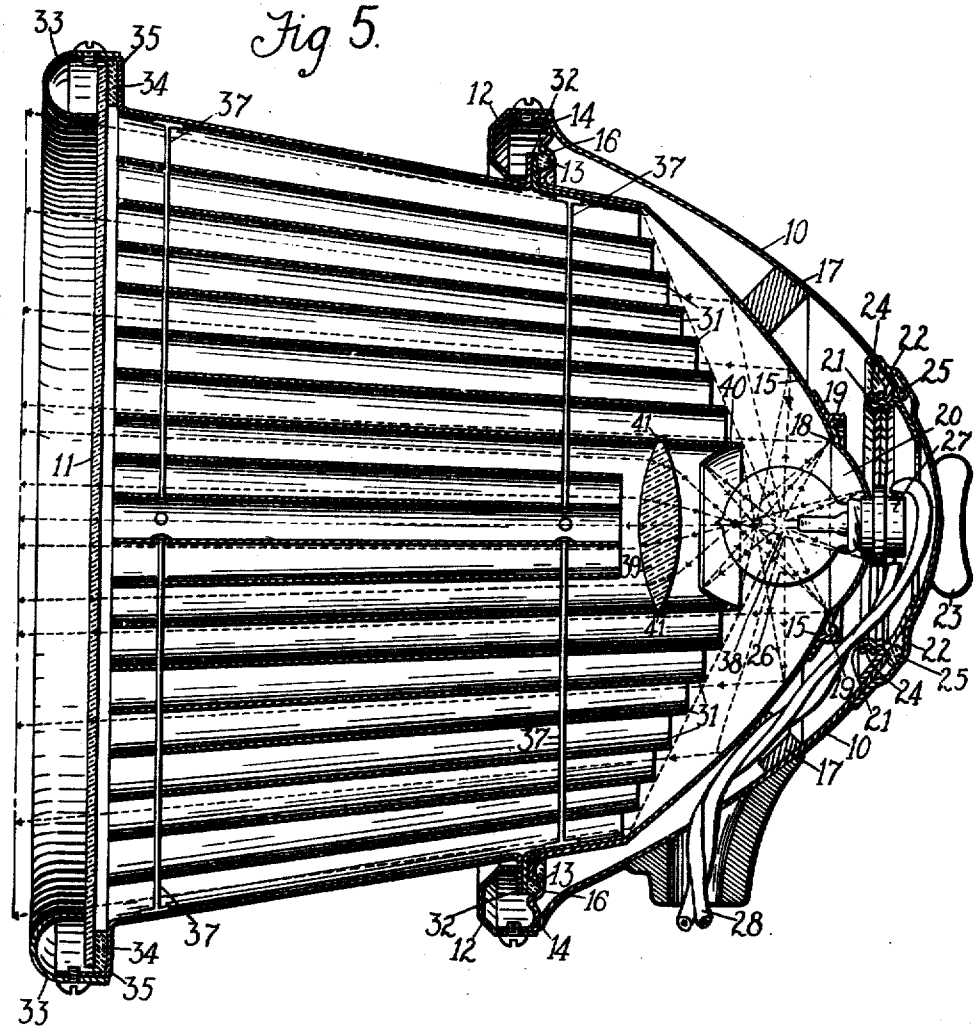
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3 SHEETS—SHEET 3.

Fig 5.



Witness

J. E. Nordstrom

W. A. Sandberg

Inventor

Otho M. Otte

By S. Arthur Baldwin

Attorney

UNITED STATES PATENT OFFICE.

OTHO M. OTTE, OF JAMESTOWN, NEW YORK.

AUTOMOBILE-LAMP.

1,266,524. Specification of Letters Patent. Patented May 14, 1918.

Application filed July 17, 1917. Serial No. 180,995.

To all whom it may concern:

Be it known that I, OTHO M. OTTE, citizen of the United States, residing at the city of Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Automobile-Lamps, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to lamps for vehicles and similar constructions wherein it is desired to project the light long distances; and the object of the improvement is, first, to provide automobile lamps with a removably attached tubular screen which is adapted for attachment to the common forms of automobile lamps without change in said lamps except to remove the glass and insert the screen which thereby protects the vision of the bystander or the passerby without obstructing the rays of light; and second, to provide in said screen a central tubular portion containing construction adapted to attain parallel alinement of the rays of light through the central portion of said screen; and the invention consists in the novel features and combinations hereinafter set forth and claimed.

In the drawings, Figure 1 is a diametral sectional view of the lamp with the tubular screen attached therein showing the construction and arrangement of the parts, the direction of the reflected and refracted rays of light being shown in dotted line. Fig. 2 is a perspective view of the tubular inner or pyramidal shaped end of the screen removed from the reflector portion of the lamp showing the construction and arrangement of the same. Fig. 3 is a vertical diametral sectional view of a modification of the automobile lamp with a tubular screen attached therein, said screen having an oblique or overhanging front and the lower half of the tubes downwardly inclined at their front ends to give a more perfect lighting of the plane of the road immediately in front of the automobile; and Fig. 4 is a front elevation of the same showing the elliptical form of the downwardly inclined lower portion of the concentric tubes forming said screen. Fig. 5 is a similar diametral sectional view of the lamp showing a detachable tubular screen attached therein having flaring or conical shaped tubes whereby the lamp directs the light over a larger area than the lamps shown in Figs. 1 and 3.

Like characters of reference refer to corresponding parts in the several views.

The numeral 10 designates the outer shell or casing of an ordinary dome-shaped automobile lamp, which casing is preferably made of thin sheet metal and has a large open front which is normally closed by a glass 11 which glass is held in place by a rim 12 preferably with a rubber gasket beneath the same and between said glass and the spacing flange 14.

The flange 14 is formed around the outwardly turned edge of the inner reflector shell 15, an annular groove 16 being provided in the flange 14 to receive the gasket 13 therein.

The flange 14 holds the outer shell or casing 10 in spaced relation to the inner reflector shell 15 and the two shells 10 and 15 are made in substantially the same parabolic shape, the shell 15 being sufficiently smaller to permit being held in spaced relation within the outer shell 10 by means of the flange 14 at the front and the spacing ring 17 between said shells near the rear portions thereby supporting all the parts of the lamp firmly in position.

The central portion or rear end of the parabolic reflector 15 has an opening 18 therein surrounded by a curved flange 19 into which a lesser reflector 20 is inserted by being sprung into the curved flange 19 thereby holding the reflector 20 firmly in position upon and so related to the parabolic reflector 15 that while it is of a different contour from the parabolic reflector 15 yet it closes the opening 18 is such a manner as to be substantially continuous with the same.

A slightly larger opening 21 is provided in the rear end of the casing 10 through which the lesser reflector may be inserted, which opening 21 is closed by means of a screw cap 22 which has a handle 23 for turning the cap into the screw thread 24 provided in the casing 10 around the opening 21.

A gasket 25 is placed beneath the overlapping edge of the screw cap 22 in the screw joint to prevent all rattling in said screw joint. It is apparent that the cap 22 may be easily removed by unscrewing the same

thereby opening an approach to the reflector 20 which in turn may be easily removed by being sprung out of the curved spring flange 19 for the purposes of adjustment and repair.

An electric lamp 26 is mounted in a suitable lamp holder 27 in the center of the small reflector 20 and has the connecting wires 28 leading to the source of electrical energy. The electric lamp 26 when mounted in the holder 27 is so adjusted in relation to the reflectors 15 and 20 that the center of the light in the lamp 26 is at that point which will be reflected best by the two reflectors in their relation to each other. The contours of both the reflectors 15 and 20 are such that all the rays of light are reflected in the desired lines of relation to one another and to the purposes hereinafter set forth.

In order to protect the vision of the bystander or passerby from the dazzling glare of the lamp, a removable or detachable vision protecting screen is provided comprising a plurality of spaced concentric tubes 29, 30 and 31, the tubes 29 being spaced parallel to one another throughout their length; and the tubes 30 having their lower portion elliptical or downwardly inclined to permit lighting immediately in front of the machine; the tubes 31 are conically shaped, flaring toward the front so as to illumine a larger space. The contour of the reflector 15 in each of the lamps for the flaring tubes 30 or 31 is so inclined as to reflect the rays of light parallel to the flaring tubes or portions of tubes.

On each of the outer tubes or cylinders 29, 30 and 31 an outwardly projecting flange 32 is provided which fits within the metal rim 12 in place of the normally placed glass 11 and said glass is moved forward to cover the front ends of different types of tubes 29, 30 and 31, an additional metal rim 33 being provided, also a gasket 34 to hold the glass 11 firmly against the angular front end 35 of the outer tubes 29, 30 or 31 without rattling. The only difference is in the case of the overhanging or forwardly inclined type of screens shown in Fig. 3 which necessitates a slightly larger glass 36 than would cover a vertical front for said tubular screen, otherwise it is apparent that the three types of detachable tubular screens shown are substantially similar in their construction, the tubes of the screens being adapted to the different purposes of the lamps.

The tubes 29, 30 and 31 are supported in their spaced relation to one another preferably by radial wires 37 which wires extend from the inner tube in each screen to the outer tube through the intervening tubes, being attached to each intervening tube in such a manner as not to permit rattling and at the same time to hold said tubes in their spaced relation. When so assembled and held in concentric relation to one another, the entire tubular screen for a lamp forms a single element, as shown in Fig. 2, and can be attached or detached as herein before described, being usable on any lamp of suitable size.

In order to control the central rays from the light 38, a lens 39 is mounted in the tube 40, preferably in a groove 41. The tube 40 is placed a spaced distance in front of the lamp 26 and has an inwardly projecting ring reflector 42 which curves away from the lamp toward the lens 39 to reflect a ring of light rays which would otherwise be diffused.

I claim as new:—

1. In combination with an automobile lamp, a tubular screen casing, and vision intercepting means borne by the screen casing and including a series of spaced planes extending in a plane parallel to the plane of the roadway, said planes being of varying lengths and having the outer ends thereof arranged in a plane oblique to the roadway and inclined downwardly and inwardly from the front and top of the screen toward the rear and bottom thereof so as to overhang the roadway.

2. In combination with an automobile lamp having a reflector and glass holding means, a screen having a substantially cylindrical casing of a diameter substantially equal to the greatest diameter of the lamp reflector so as to fit within the latter, means on the rear end of the screen to engage in said glass holding means upon removal of the glass therefrom so as to be secured by said holding means with the front end of the casing extending outwardly from the lamp so as to form a continuation of the lamp, means on the front end of the casing to secure the glass thereto upon removal of the glass from the lamp, and vision intercepting means within the casing.

3. In combination with an automobile lamp having glass holding means, a screen, means on the screen for engagement with said glass holding means upon removal of the glass so as to rigidly secure the screen to the lamp, and means on the screen to secure said glass thereto upon removal of the glass from the lamp.

4. In combination with an automobile lamp, a tubular screen casing, and vision intercepting means borne by the screen casing and extending in a plane parallel to the plane of the road, said screen casing and means having the outer ends thereof cutaway in a plane oblique to the roadway and inclined downwardly and inwardly from the top and front of the screen casing toward the rear and bottom thereof.

5. In combination with an automobile lamp, a screen having horizontal concentric spaced tubes arranged in pyramidal form

at the inner ends of the tubes and extending into the lamp, the outer ends of the tubes being arranged in a plane oblique to the roadway and inclined downwardly and inwardly from the top and front of the screen toward the rear and bottom thereof.

6. In combination with an automobile lamp, a screen having spaced concentric tubes the upper halves of which are semi-circular in form and the lower halves of which are of substantially elliptical form.

In testimony whereof I affix my signature in the presence of two witnesses.

OTHO M. OTTE.

Witnesses:
H. A. SANDBERG,
R. V. CONNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."