(No Model.) 2 Sheets—Sheet 1.

E. L. WILLIAMS.

BICYCLE LAMP.

No. 554,044. Patented Feb. 4, 1896.

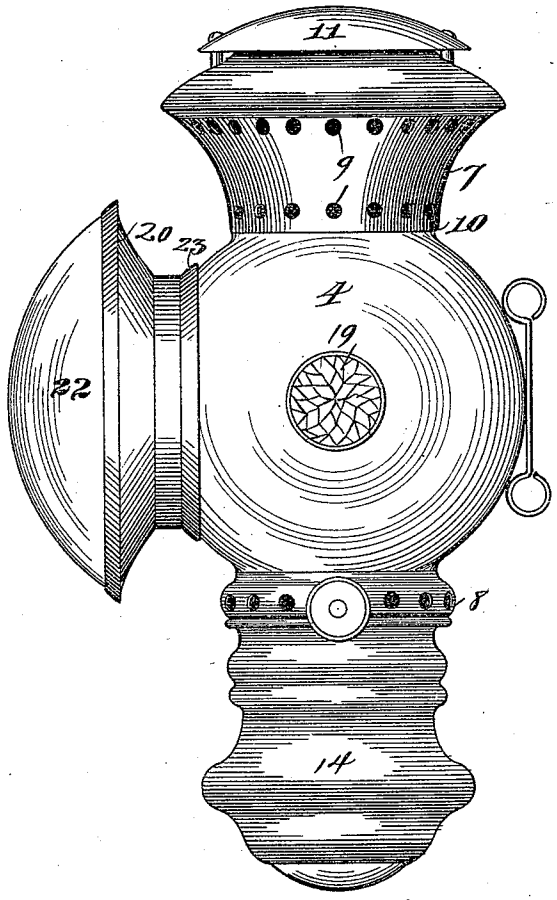

Fig. 1.

Witnesses,
D. D. Mann
Frederick P. Goodwin

Inventor,
Edward L. Williams
By Offield, Towle & Linthicum
Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

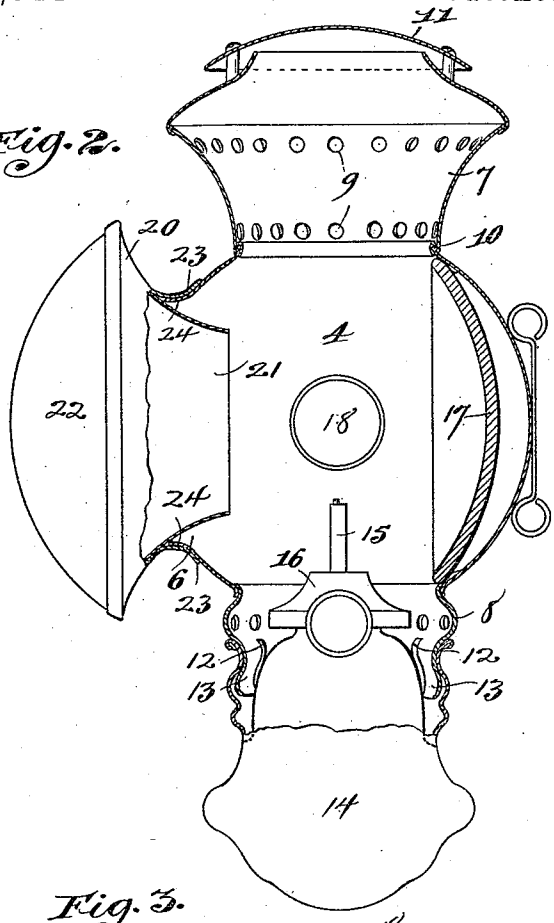
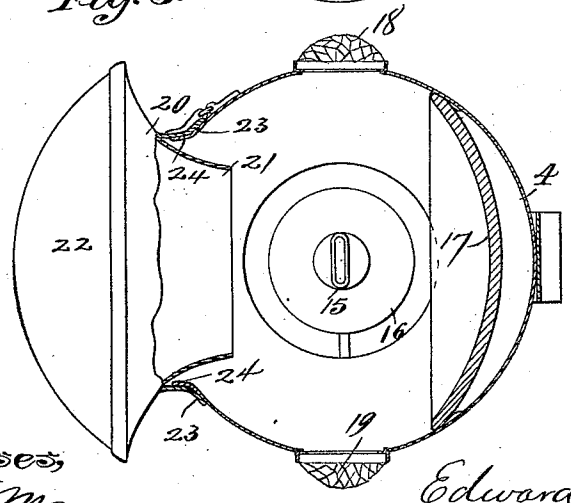


Fig. 3.



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F. S. Mann,
Frederick L. Goodwin.

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Edward L. Williams
By Offield, Towle & Linthicum
Attys.

UNITED STATES PATENT OFFICE.

EDWARD L. WILLIAMS, OF CHICAGO, ILLINOIS.

BICYCLE-LAMP.

SPECIFICATION forming part of Letters Patent No. 554,044, dated February 4, 1896.

Application filed June 24, 1895. Serial No. 553,877. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. WILLIAMS, of Chicago, Illinois, have invented certain new and useful Improvements in Bicycle-Lamps, of which the following is a specification.

The object of my invention is to produce a serviceable and compact bicycle-lamp from materials which are easily workable and adapted to be economically wrought into such forms as to secure great strength as well as lightness, and provide suitable spaces for the lamp accessories, such as the reflector and colored glasses.

My invention consists in certain forms of construction and combinations of parts, as hereinafter described and particularly pointed out in the claims.

In carrying out my invention I make the body of the lamp or lantern globular in form by spinning such body from a single piece of sheet metal. This globular body is provided with circular openings in three of its sides, to one of which is fitted a perforated base-ring, affording ventilation at the bottom, and having a slitted and corrugated flange providing spring-tongues for attaching the oil-reservoir and wick-tube. To the top opening is fitted the dome, also adapted for ventilation, and to the side opening is fitted a hinged door carrying the front lens or bull's-eye.

All of the parts above mentioned are made of sheet metal and spun into form.

The lamp is provided with the usual or suitable means for attaching it to a bicycle, and is adapted to burn any illuminating fluid.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is an elevation, partly in vertical section. Fig. 3 is a central horizontal section through the body.

In the drawings, 4 represents the body of the lamp, which is globular in form, and is produced most economically by forming it over a split or sectional chuck from a single sheet of metal. The body may be given the completed or final form by the operation of spinning, and the chuck removed through the front opening, (indicated at 6.) This spherical or globular body is next provided with top and bottom openings, adapted to receive respectively the dome 7 and a ventilating-shell 8. The dome is conveniently formed by spinning two flaring rings and uniting their larger ends together, the base-ring having a series of perforations 9 and being united to the body by flanging or soldering, as at 10.

11 represents the cap of the dome. The cap is supported out of contact with the top of the dome, so as to provide free egress of the heated air-currents. The perforated base-ring 8 may also be secured to the body by flanging or soldering, and said ring is preferably corrugated circumferentially and its lower edge is slitted, as at 12, thus providing the spring-tongues 13.

The oil-reservoir 14 has its upper portion preferably corrugated and is connected with the body by forcing such corrugated portion over the spring-tongues 13. On the top of the oil-reservoir is mounted the wick-tube 15 and wick-tube cap 16 of usual or desired construction.

17 represents the reflector fitted against the curved back wall of the body, and 18 19 represent the signal-glasses, which are of the common form called "jewels," but are preferably differently colored, so as to indicate the direction of movement of the vehicle.

A circular frame 20 is hinged at one edge of the front opening to the body of the lamp, and in the form shown is double conical, the surface 21 being a reflector and the outer end of the frame having the usual convex bull's-eye glass 22.

A lens or other form of glass may, of course, be employed.

The inwardly-projecting reflector-ring 21 may be dispensed with.

I prefer to dispense with the necessity of a catch for this hinged frame by providing it with a circular rim 23, which is adapted to fit over a flange 24 turned out from the body and of such form as to constitute it a spring. When these parts are forced together, the flange 24 is slightly contracted, and the rim 23 passing over it hugs it so close as to prevent separation from jar or shock.

The construction above described affords a bicycle-lamp of great strength and yet light and economical in manufacture. Aside from the attractive appearance of the lamp, due to the curved lines on which the various parts

are formed, the spherical shape of the body gives it great strength, affords a convenient space for the concave reflector 17, and provides an easy method of attachment of the dome, oil-reservoir and hinged door. The globular form of the body also permits of a supply of a large volume of air to the interior of the lamp, and the body is of such transverse diameter that the inrushing currents of air due to the vibrations of the lamp are not carried up in direct contact with the flame so as to extinguish it. It will also be apparent that the currents of air in passing up into the interior of the body are not deflected or thrown out across the flame by any angles or bends, but are naturally deflected toward the sides of the body by becoming heated from the flame, the currents following the curved sides of the body instead of passing straight from inlet to outlet apertures. As a result of this construction, I have found that the lamp will not be extinguished by vibration, shock or tipping such as is encountered in the ordinary use of a bicycle.

While some of the details of construction may be modified, I regard the several features hereinabove described as being severally the best known to me and affording in their combination improved results due to the co-operation of the several elements.

I claim—

1. A bicycle-lamp having its body or flame-chamber composed of a single sheet of metal wrought into hollow spherical form and provided with openings in its top and bottom for the attachment of the ventilator-dome and burner respectively and having also an opening in its front of less diameter than that of the body and a glass fitted to said opening, a burner arranged in the vertical axis of the flame-chamber, air-inlet openings below the flame and the interior of the flame-chamber having curved surfaces only over which the air-currents may pass without deflection upon the flame, substantially as described.

2. A bicycle-lamp having a sheet-metal body of spherical form provided with a circular opening in its bottom, a ventilating-ring secured in said opening and having its lower edge circumferentially corrugated and vertically slitted and an oil-reservoir provided with a cylindrical corrugated flange adapted to be forced over the slitted portion of the ventilating-ring, substantially as described.

3. A bicycle-lamp having a hollow spherical body formed of a single sheet of metal and providing a flame-chamber whose transverse and vertical diameters are equal and having an opening in its bottom, a burner arranged in said opening and in the vertical axis of the flame-chamber, air-inlet openings arranged concentrically to the burner and below the flame and an outlet for the vitiated air at the top of the chamber, substantially as described.

EDWARD L. WILLIAMS.

Witnesses:
C. C. LINTHICUM,
FREDERICK C. GOODWIN.