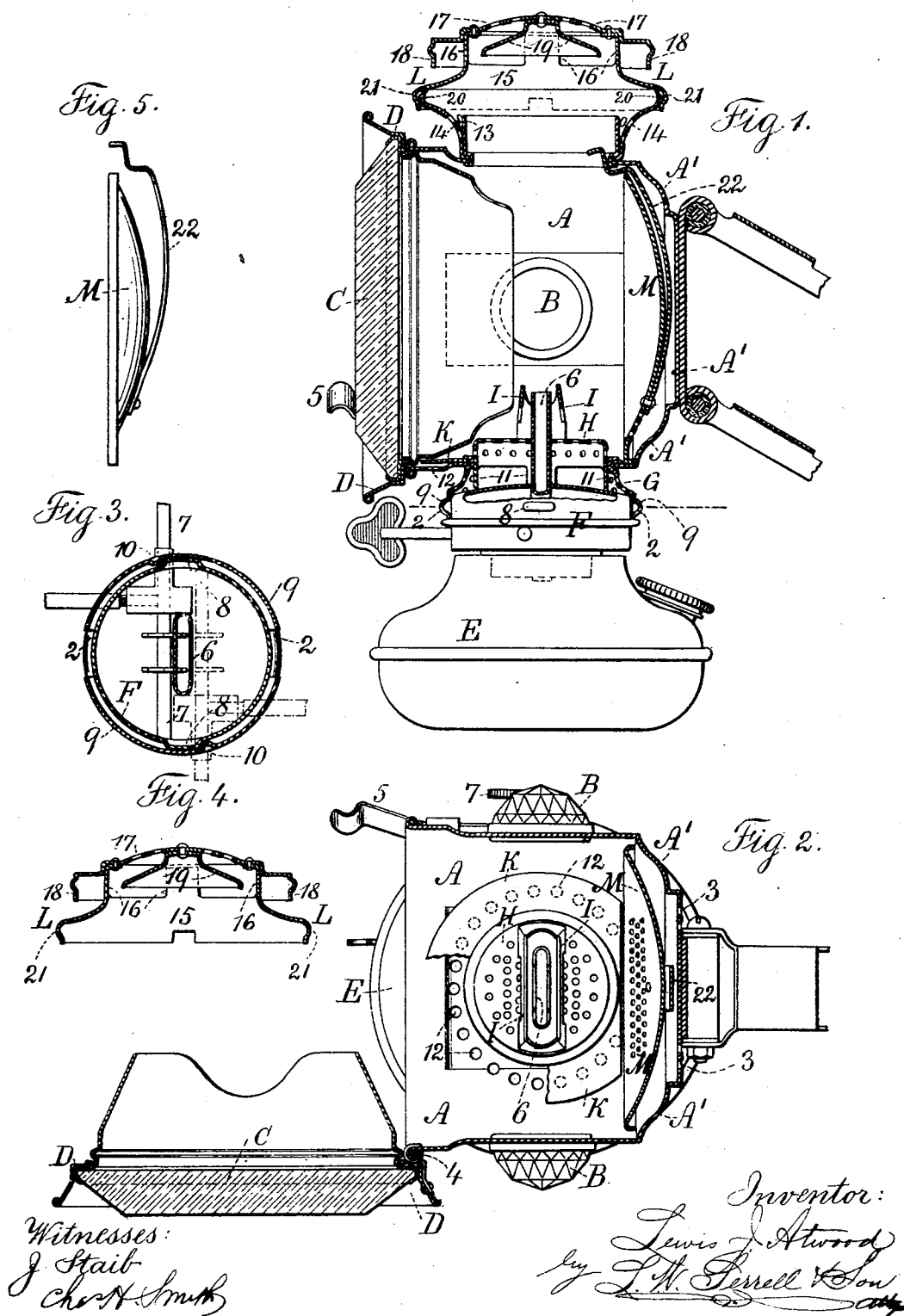


(No Model.)

L. J. ATWOOD.
LAMP FOR CYCLES.

No. 586,348.

Patented July 13, 1897.



UNITED STATES PATENT OFFICE.

LEWIS J. ATWOOD, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
PLUME & ATWOOD MANUFACTURING COMPANY, OF SAME PLACE.

LAMP FOR CYCLES.

SPECIFICATION forming part of Letters Patent No. 586,348, dated July 13, 1897.

Application filed December 7, 1896. Serial No. 614,743. (No model.)

To all whom it may concern:

Be it known that I, LEWIS J. ATWOOD, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented an Improvement in Lamps for Cycles, of which the following is a specification.

This invention is made for lessening the risk of the flame being extinguished by currents of air that are intensified in their action upon the flame by the rapid movement given to the lamp as carried on the cycle, and at the same time for allowing the parts to be detached sufficiently for removing accumulations of smoke or oil and for holding the parts firmly together when in use.

With the aforesaid object in view the lower portion of the lamp-body is perforated for the free admission of atmospheric air to the flame, and an annular wind-guard is applied around within the body of the lamp over the perforations and around the lamp-burner, so that the currents of air are supplied within the lamp-body closely adjacent to the inner surface and cannot pass with force toward the flame, and there is a draft-cap around the wick supported by the body of the lamp-burner and having numerous small perforations through which air is allowed to pass near the flame, and a deflector is held by this draft-cap so as to shield the lower edges of the flame where the same rises from the wick. The reflector sets at its bottom edge within the body of the lamp, and it is held by a spring connected with the back of the reflector and passing up into the top opening through which the products of combustion pass, and as the reflector is pressed back to position the spring not only holds the reflector itself but also is held into the body of the lamp by the metal at the back of the opening in the body, and the removable upper portion of the lamp-body is made for allowing the free escape of the products of combustion and for preventing currents of air passing into the lamp.

In the drawings, Figure 1 is a vertical section of the lamp. Fig. 2 is a sectional plan through the body of the lamp with the front glass and frame swung open. Fig. 3 is a sectional plan representing the locking device for the burner. Fig. 4 is a detached sectional

view of the removable lamp-top, and Fig. 5 is a side view of the reflector detached.

The lamp-body A is cylindrical, and has a back A', that is closed except at the perforations 3, and there may be side glasses B in this lamp-body. The front glass C is received into a conical rim D, that is hinged at 4 to the front of the lamp-body, and the spring 5 catches over the front edge of the rim of the glass to hold the same when shut.

The reservoir or fount E is to be of any desired size and shape, and upon the top thereof is screwed the burner F, that is provided with a wick-tube 6 and with a wick-raiser 7, and in the opposite sides of the burner in the sheet metal thereof are projections or lugs 8, and projecting downward from the lamp-body A, at an opening therein, is the air-distributor G, which is conical in form and firmly connected at its upper edge to the lamp-body at the opening therein, and this air-distributor is made with numerous small holes, and there is a hollow bead 9 at the lower end of the air-distributor and notched at opposite sides, as seen at 2 2 in Fig. 3, for the passage of the lugs 8 upon the lamp-burner F, and there are stops 10 within the hollow bead 9 at opposite sides thereof, so that after the burner has been entered through the opening in the bottom of the lamp-body with the lugs 8 in the hollow bead 9 the reservoir E and burner are given a quarter-turn to bring the lugs 8 against the stops 10 to arrest the further movement of the parts, and it will be apparent that the lamp-burner can be inserted in place, with the wick-raiser shaft 7 projecting either at one side or the other side, because there are two lugs and two notches in the hollow bead, and the lamp can be introduced and turned with the wick-raiser shaft either to the one side, as shown by the full lines, or to the other side, as shown by the dotted lines, thus giving easy access for regulating the flame according to the manner in which the lamp may be supported upon the cycle.

Rising from the ratchet-cap or upper plate of the burner F is a draft-cap H of a size to set closely into the opening in the bottom of the burner at the top of the air-distributor G, and this draft-cap has legs 11, by which it

is connected with the burner and supported at the proper height around the wick-tube 6, and the holes in this draft-cap are numerous and small, so that the air passing up from below the ratchet-cap to the flame will be subdivided and will not cause the flame to flicker or smoke.

Rising from the top of the draft-cap H is a deflector I, having straight plates, one at each side of the wick-tube and protecting the base of the flame, and the end connections of these plates are depressed or notched, so as to give space for the flame to spread.

Through the lower part of the body A and around the air-distributor are holes 12, in one or more rows, for the free admission of air into the lamp-body, and the annular deflector K is connected at its inner edge at the junction of the air-distributor and the lamp-body, and it projects out over the holes 12 and at a sufficient distance from the interior of the lamp-body for the air to pass freely between such deflector and the lamp-body and rise into the body for supplying fresh air to the flame, and at the same time the annular deflector prevents currents of air passing direct to the flame, so as to cause the flame to flicker or to smoke.

The upper end of the air-distributor is preferably turned over to connect the annular deflector K, lamp-body, and air-distributor together.

At the top of the lamp a cylindrical wind-guard 13 is connected at its base to the lamp-body, and around the same and flaring outward is a perforated base 14 for the cap L, which is composed of the conical portion 15, having tongues 16, extending upward to the top plate 17, the tongues being riveted to the top plate, and this top plate has a cylindrical hanging flange 18 surrounding the openings between the tongues 16, and the top plate 17 is perforated and provided with a conical deflector at the under side, connected at the middle portion to the top plate, so that there is an air-space between the conical deflector and the perforated top plate for allowing the products of combustion to pass around the conical deflector and escape through the perforations, and this deflector 19 prevents currents of air blowing down into the lamp either through the openings in the top plate 17 or through the openings between the tongues 16.

The cap L is connected to the perforated base 14 by lugs or projections 20 near the top edge of the perforated base 14, passing into the hollow bead 21 around the bottom edge of the conical portion 15 of the cap, such hollow bead being notched at one side to allow one of the lugs 20 to pass into the same after the hollow bead has been placed over the other lug, and by giving the cap a partial revolution the parts are locked together.

The reflector M is adapted to set within the body A at the back portion, there being a space around the reflector for air to pass in through the perforated back A' of the lamp-

body and escape into the interior of the lamp-body, and there are also perforations in the lower part of the reflector. The bottom edge of this reflector sets behind the back edge of the annular deflector K, and there is a spring 22, fastened at its lower end to the back of the reflector, and its upper end comes above the top edge of the reflector and is bent up as a latch. The shape of this spring 22 when not under pressure is indicated in the detached view, Fig. 5, and when the reflector is put in place at its bottom edge the upper end of the spring 22 comes into the central opening of the wind-guard 13, and by pressing the top part of the reflector back it comes beneath the latch end of the spring 22, and hence this spring holds the reflector back in position and is itself held in place by engaging the metal of the body A adjacent to the wind-guard 13. In this manner the reflector is held rigidly in position, and it can be easily removed by the thumb or finger applied to the upper end of the spring 22.

I claim as my invention—

1. In a lamp for cycles, a body of sheet metal extending across above the reservoir and having an opening through it for the wick-tube and surrounding parts on the removable reservoir, and perforations through the sheet metal around the opening, in combination with the annular deflector above the said perforations, and an air-distributor adapted to extend down around the burner upon the reservoir and passing at its upper end through the opening in the lamp-body and turned over to secure the annular deflector to the lamp-body, substantially as set forth.

2. The combination with the lamp-body having an opening in the lower part, of an air-distributor permanently connected to the lamp-body at such opening, and terminating at its lower edge with a hollow bead notched at opposite sides, an oil-reservoir and a wick-tube and burner upon the same with lugs at opposite sides of the burner to be received into the hollow bead, and stops in the hollow bead for holding the lamp-burner in its proper position with the wick-raiser shaft of the lamp-burner projecting at either one side or the other of the lamp, substantially as set forth.

3. The combination with the lamp-body having an opening at the bottom and a downward-projecting air-distributor permanently connected with the lamp-body at its upper end and having a hollow bead at its lower edge, of a lamp-reservoir and a burner upon the same having a wick-tube and wick-raiser and projections upon the burner to enter the hollow bead of the air-distributor and interlock with the same, a draft-cap rising from the lamp-burner around the wick-tube and perforated with numerous small holes, an annular deflector around the draft-cap and secured within the lamp-body at the upper end of the air-distributor and covering a row of holes through the lamp-body so as to allow air to pass through such holes and escape closely

adjacent to the interior surface of the lamp-body, substantially as set forth.

4. The combination with the lamp-body and removable oil-reservoir and burner, of a wind-guard in the form of a cylinder permanently connected at an opening in the upper part of the lamp-body, a flaring perforated base surrounding the wind-guard, a removable cap connected at its lower edges with the upper edges of the flaring perforated base and having a conical lower portion with connections to the top plate of the cap, such top plate having a cylindrical hanging flange at its outer edges and being perforated in the middle portion, and a deflector connected to the cap below the perforated portion of the top plate for preventing currents of air that pass through

such perforations extending down into the lamp, and for deflecting the products of combustion as they rise through the wind-guard, substantially as set forth.

5. The combination with a lamp-body, of a removable reflector and a spring fastened at its lower end upon the back of the reflector and extending up behind such reflector and bent at the upper end to engage the lamp-body and hold the reflector in position, substantially as set forth.

Signed by me this 24th day of November, 1896.

L. J. ATWOOD.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.