(No Model.)

C. L. BETTS.

LAMP.

No. 589,953. Patented Sept. 14, 1897.

Fig. 1.

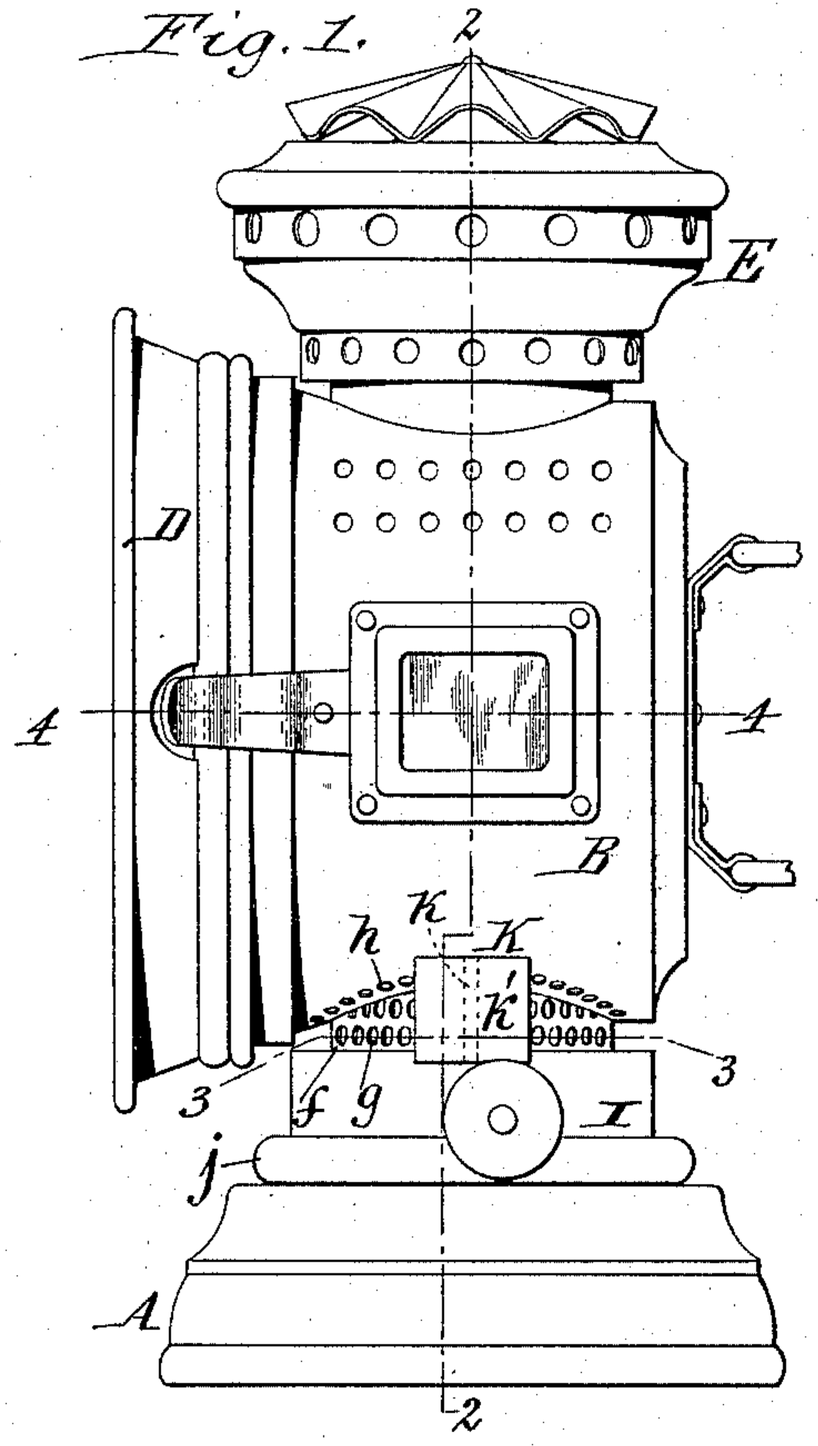


Fig. 2.

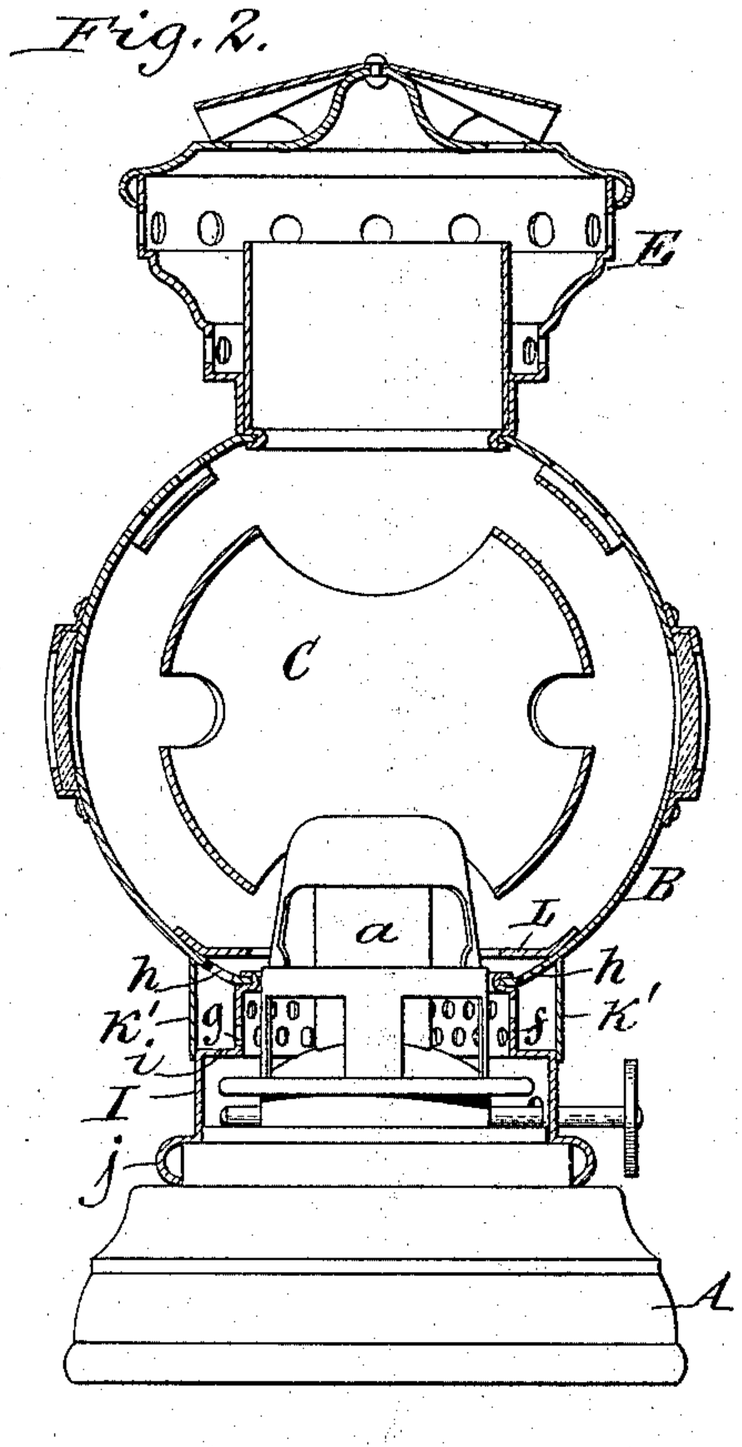


Fig. 3.

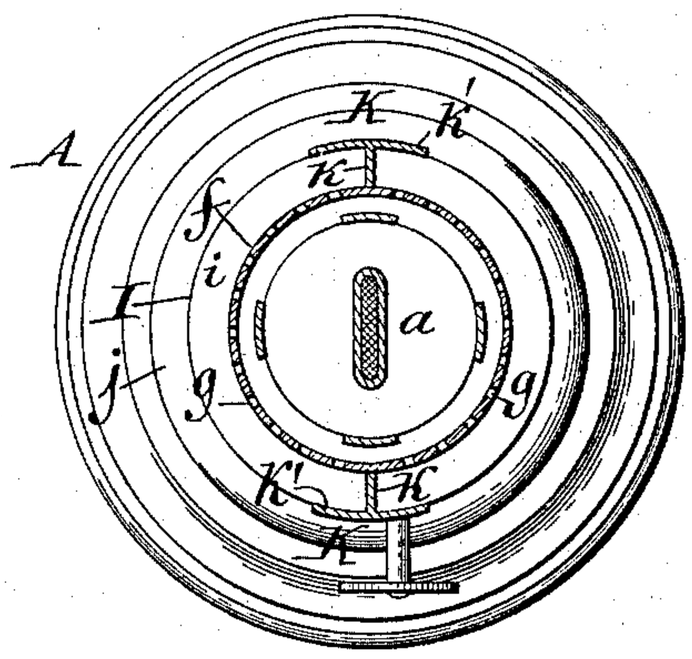
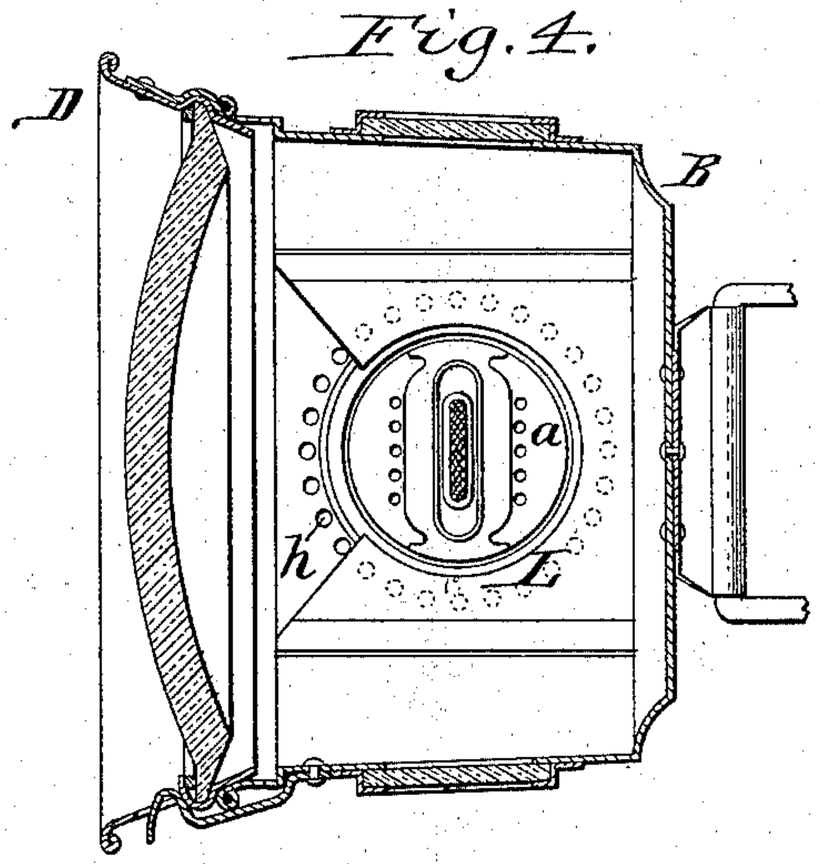


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES L. BETTS, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE R. E. DIETZ COMPANY, OF NEW YORK, N. Y.

LAMP.

SPECIFICATION forming part of Letters Patent No. 589,953, dated September 14, 1897.

Application filed February 6, 1897. Serial No. 622,338. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. BETTS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Lamps, of which the following is a specification.

The object of this invention is to improve the construction of the devices whereby air is supplied for the support of the flame to the lower portion of the case of a bicycle or carriage lamp, so as to maintain a white and strong flame under the various conditions of motion and exposure to wind under which such lamps are used.

In the accompanying drawings, Figure 1 is a side elevation of a bicycle-lamp provided with my improvements. Fig. 2 is a vertical cross-section of the lamp-body in line 2 2, Fig. 1, the oil-pot and burner being shown in front elevation. Figs. 3 and 4 are horizontal sections, respectively, in lines 3 3 and 4 4, Fig. 1.

Like letters of reference refer to like parts in the several figures.

A represents the oil-pot, and *a* the burner mounted thereon; B, the lamp-case; C, the reflector arranged in the same; D, the front collar, which contains the front glass, and E the top or dome. All of these parts may be of any ordinary or suitable construction.

f represents a cylindrical collar which is secured to the lower portion of the lamp-case and provided in its side with fine perforations *g*.

h represents an annular row of perforations formed in the lower portion of the lamp-case around the upper end of the collar *f*.

I represents an imperforate collar which is arranged below the perforated collar *f* and formed in one piece therewith. This imperforate collar is somewhat larger in diameter than the perforated collar and connected therewith by a horizontal shoulder *i*. The collar I is provided at its lower end with a bead *j*, in which the oil-pot is secured by any suitable detachable fastening, so that the burner extends upwardly through the perforated collar into the lamp-case.

K represents air-injectors arranged on both sides of the perforated collar *f* and composed each of a vertical transverse plate *k*, which extends outwardly from the perforated collar between the shoulder *i* and the overhanging lower portion of the lamp-case, and a longitudinal vertical outer head or plate *k'*, which is secured to the outer end of the transverse plate at right angles to the same. This head may be curved to conform to the curvature of the perforated collar, as shown in Fig. 3.

L represents a horizontal deflecting-plate which is secured to the inner side of the lamp-case above the annular row of perforations *h* and which extends from the sides and back of the case toward the burner. The inner edge of the plate extends around the burner, except at the front, as shown in Fig. 4. The lamp-case, as shown, is cylindrical, with the axis of the cylinder arranged longitudinally, and the side edges of the deflecting-plate are secured to the lower portions of the curved side walls of the case. The burner projects into the lamp-case above the deflecting-plate L.

The perforations in the collar *f* and the row of perforations *h* supply air to the lower portion of the lamp structure for the support of the flame and this air is directed inwardly toward the burner by the plate L. Part of this air is drawn into the lamp structure by the action of the flame and part is injected by air-currents which strike these perforations directly. This air-supply is increased by the injectors K, which operate upon air-currents which would otherwise pass by the perforated collar *f* and which deflect such air-currents into the lamp structure partly through the adjacent perforations of the collar *f* and partly through the adjacent perforations *h*. These injectors project laterally from the perforated collar *f*, and therefore gather air during the forward movement of the vehicle to which the lamp is attached and inject such gathered air into the lamp.

The fine perforations of the collar to which the injectors are applied break up the injected air-currents into fine streams. This is necessary in order to prevent the extinguishment

of the flame under a copious injection of air, as the distance between the injectors and the flame in this class of lamps is very small.

I claim as my invention—

1. The combination with a lamp-case having at its lower end a finely-perforated collar, of an oil-pot secured in said collar below the perforations thereof, a burner mounted on said oil-pot and projecting into said lamp-case and having its lower portion arranged opposite said perforations, and air-injectors which are arranged on both sides of said collar outside of said perforations and deflect the air inwardly through said perforations against the lower portion of the burner, substantially as set forth.

2. The combination with a lamp-case having at its lower end a finely-perforated collar, of an oil-pot secured in said collar below the perforations thereof, a burner mounted on said oil-pot and projecting into said lamp-case and having its lower portion arranged opposite said perforations, and air-injectors which are arranged on both sides of said collar and which consist each of a transverse vertical plate extending from said perforations outwardly and a longitudinal plate arranged at the outer end of said transverse plate, substantially as set forth.

3. The combination with a lamp-case having at its lower end a perforated collar, and having perforations in its lower portion above said collar, of an oil-pot secured in said collar below the perforations thereof, a burner mounted on said oil-pot and projecting into said lamp-case and having its lower portion arranged opposite the perforations in said collar, air-injectors which are arranged on both sides of said collar and deflect the air inwardly through the perforations of said collar and case, and a deflecting-plate which is arranged within the lamp-case above the perforations thereof and deflects the air inwardly against the burner, substantially as set forth.

Witness my hand this 25th day of January, 1897.

CHARLES L. BETTS.

Witnesses:
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