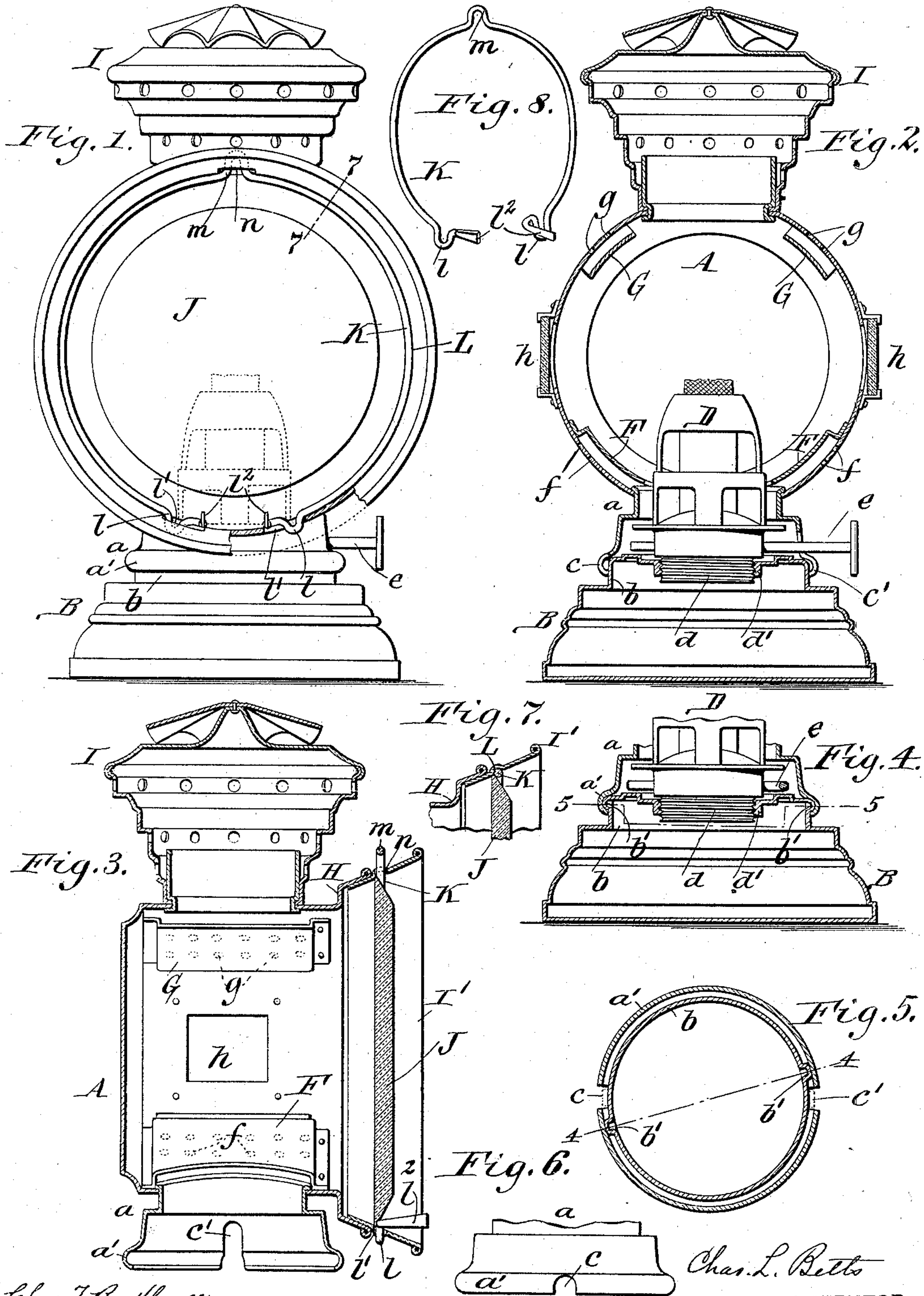


(No Model.)

C. L. BETTS.  
BICYCLE LAMP.

No. 591,108.

Patented Oct. 5, 1897.



Chas. F. Burkhardt,  
Theo. L. Popp, } WITNESSES.

Chas. L. Betts  
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By Wilhelm Hornum  
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# UNITED STATES PATENT OFFICE.

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

## BICYCLE-LAMP.

SPECIFICATION forming part of Letters Patent No. 591,108, dated October 5, 1897.

Application filed July 31, 1896. Serial No. 601,125. (No model.)

*To all whom it may concern:*

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

This invention relates principally to that class of lamps which are used on bicycles, although my improvements are also applicable to lamps and lanterns for other uses.

My invention has for its objects to improve the devices whereby air is supplied to the flame in such a way as to render the flame steady and prevent extinguishment; also, to improve the means whereby the oil-pot is attached to the body of the lamp, and also to improve the means whereby the front glass is secured in place.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of my improved lamp. Fig. 2 is a vertical central cross-section of the lamp. Fig. 3 is a vertical longitudinal section of the lamp with the oil-pot and burner removed. Fig. 4 is a vertical section of the oil-pot and lower portion of the burner through the lugs on the oil-pot in line 4 4, Fig. 5. Fig. 5 is a horizontal section in line 5 5, Fig. 4. Fig. 6 is a fragmentary side elevation of the lower collar of the lamp-body, viewed from the side on which the shallow notch is formed. Fig. 7 is a fragmentary cross-section of the front glass-frame and connecting parts in line 7 7, Fig. 1. Fig. 8 is a detached perspective view of the elastic bow by which the front lens is secured in its frame.

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

A represents the body of the lamp, having the form of a horizontal cylinder and provided at its lower end with a collar *a* for the attachment of the oil-pot B. The collar *a* of the lamp-body is provided at its lower edge with an annular bead *a'*, having its concave or recessed side arranged inwardly. The oil-pot is provided at its top with a contracted cylindrical portion *b*, of a diameter to enter the lower beaded portion of the collar, and this cylindrical portion of the oil-pot is provided on diametrically opposite sides with two short lugs or projections *b'* of a size to enter the

cavity of the bead *a'*. The latter is provided in its lower edge and on diametrically opposite sides with a shallow notch *c* and a deep notch *c'*.

D represents the burner, provided with the usual screw-threaded lower portion *d*, which engages in the threaded socket *d'* of the oil-pot, and *e* is the usual wick-raiser shaft, which projects laterally from the burner. The deep notch *c'* in the collar *a* of the lamp-body is so deep or high as to allow the wick-raiser shaft to enter the same when the oil-pot is inserted into the collar of the lamp-body.

For connecting the oil-pot with the lamp-body the burner is so adjusted in its socket that the wick-raiser shaft stands over one of the lugs *b'*. The oil-pot is then inserted into the collar in such manner that the wick-raiser shaft and the lug below the same enter the deep notch and the opposite lug enters the shallow notch of the collar, the two lugs standing on a level with the internal cavity of the bead and the wick-raiser shaft above the bead. The oil-pot is now given a partial turn to the right, whereby its two lugs are caused to enter the cavity of the bead and to move into the same circumferentially a corresponding distance, thereby breaking joint with the notches in the beaded collar and preventing disengagement of the oil-pot and lamp-body by a direct pull. This turning movement of the oil-pot is participated in by the burner only for a short distance until the wick-raiser shaft strikes the side of the deep notch, when the further turning movement of the burner with the oil-pot ceases. The further continuation of the turning movement of the oil-pot while the burner is held stationary by the engagement of the wick-raiser shaft against the side of the deep notch causes the burner to be screwed tightly into its seat, with the wick-raiser shaft bearing down upon the top of the oil-pot, so that the wick cannot be jarred down. For detaching the oil-pot from the lamp-body the oil-pot is turned back until its lugs register with both notches, when the parts can be separated. This attachment of the oil-pot to the lamp-body is very simple and secure, as it does not rely upon the wick-raiser shaft as a means of attachment and provides means



for tightening the burner in its seat by means of the wick-raiser shaft.

*f* represents the air-inlet openings in the lower side portions of the lamp-body, preferably consisting of two horizontal rows of perforations, and *g* represents the air-inlet openings similarly arranged in the upper side portions of the lamp-body.

*h* represents the usual side lights or signals, and *I* the usual top or dome, which may be of any ordinary or suitable construction.

*F* represents flat tubes or shields which are applied to the inner side of the lamp-body so as to cover the lower air-inlets *f*. These tubes or shields are closed at the top and open at the bottom, so as to direct the air entering through the lower openings downwardly to the lower portion of the burner below the flame and prevent direct contact of the entering air-currents with the flame, which might cause the flame to be extinguished.

*G* represents similar flat tubes or shields, which are applied to the inner side of the lamp-body, so as to cover the upper air-inlets *g*, but these shields are open both at the top and bottom, so that they will deflect the entering air both upwardly and downwardly.

*H* represents the flaring front collar of the lamp-body, in which the annular frame *I'* is arranged, which carries the lens or front glass *J*. The frame *I'* flares forwardly, like the front collar *H*, and is attached to the lamp-body in a well-known manner by a hinge and catch (not shown in the drawings) or by other suitable fastenings. This frame is provided about midway between its front and rear edges with an annular groove *L*, which forms a seat for the lens *J* and for an elastic bow or divided ring *K*, of wire or other suitable material, by which the lens is held in place. This bow is provided near its ends with downwardly-bent ears *l*, which engage in openings *l'*, formed in the lower portion of the frame, and the end portions *l<sup>2</sup>* of the bow, which are located be-

yond the end ears, project forwardly and are preferably flattened for more conveniently handling them. The bow is provided with a third bent ear *m*, which is arranged diametrically opposite the ends of the bow and engages in an opening *n*, formed in the upper portion of the frame *I'*. The lens having been placed against its seat in the frame, the wire bow is inserted with its central ear in the upper opening of the frame, and the ends of the wire bow are then compressed until the end ears are sprung into the lower openings, whereby the lens is securely attached to the frame. Upon compressing the ends of the bow the lower ears are readily withdrawn from the lower openings of the frame, when the bow can be removed for releasing the lens.

I am aware that wire bows provided with ears have been used for securing the lenses or glasses of lamps and lanterns and do not broadly claim the same.

I claim as my invention—

The combination with a lamp-body provided at its lower end with a bead having its recessed side arranged inwardly and having notches in its lower edge, one of said notches being of suitable height to receive the wick-raiser shaft, of an oil-pot adapted to enter said beaded collar and provided with outwardly-projecting lugs adapted to be passed upwardly through said notches and to enter the recess of said bead by a turning movement, and a screw-burner seated in said oil-pot and provided with a wick-raiser shaft adapted to enter one of said notches, whereby the burner is prevented from turning with the oil-pot and can be screwed down tightly by turning the oil-pot with its lugs in the recessed bead of the lamp-body, substantially as set forth.

Witness my hand this 29th day of July, 1896.

CHARLES L. BETTS.

Witnesses:

OSCAR WARNER,  
E. LANGSDORF.