

(No Model.)

C. L. BETTS.

TORCH LAMP.

No. 316,440.

Patented Apr. 28, 1885.

Fig 1

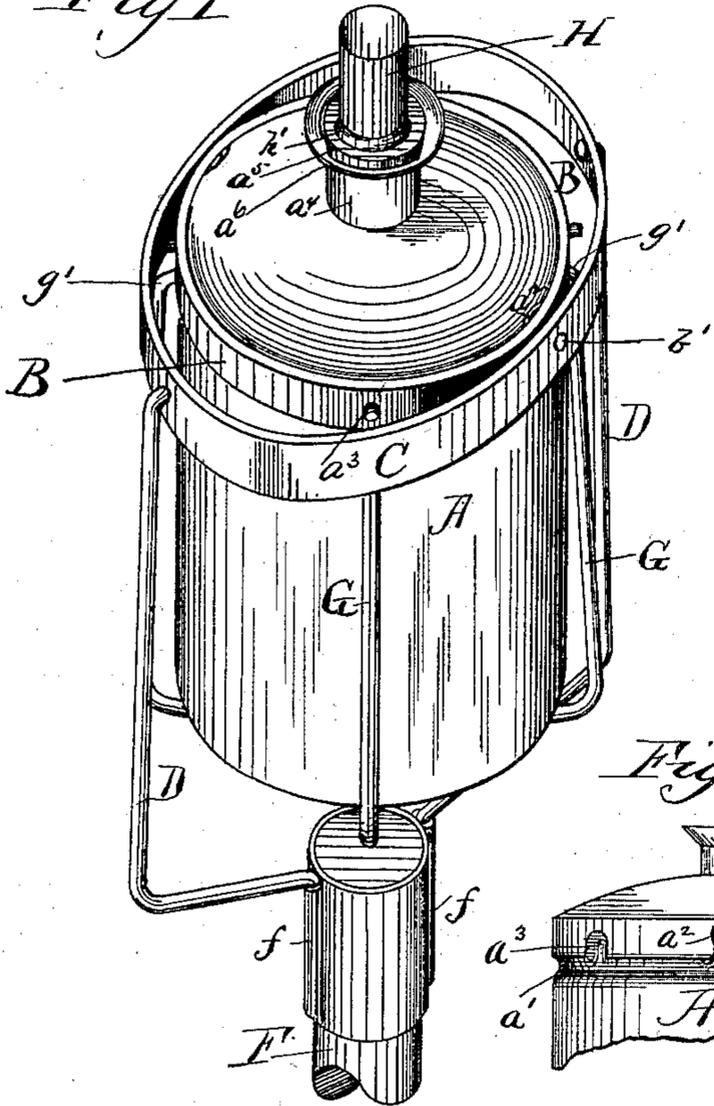


Fig 5.

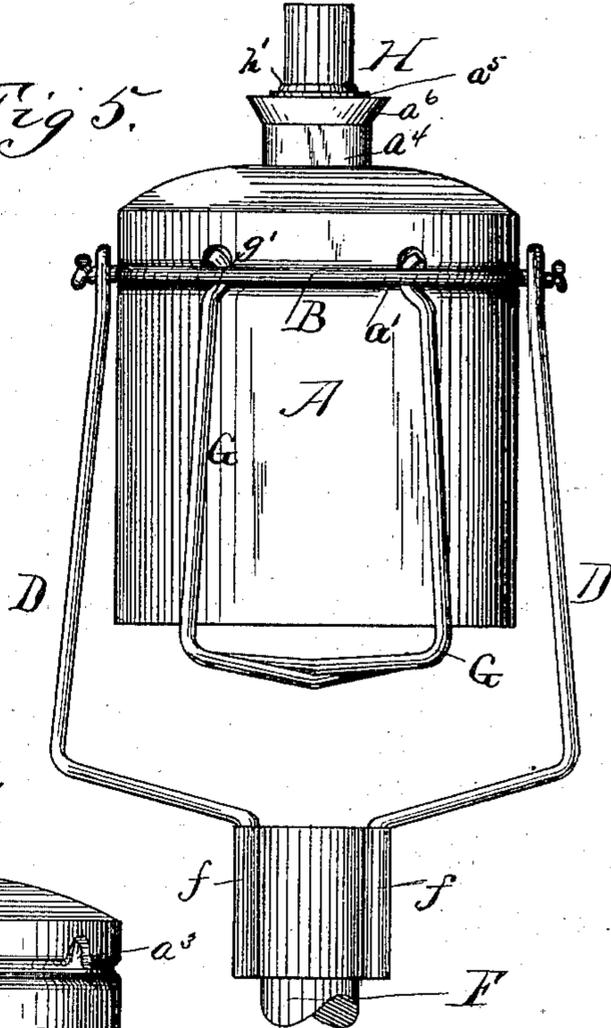


Fig 4.

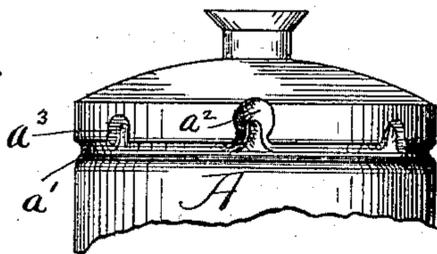


Fig 2.

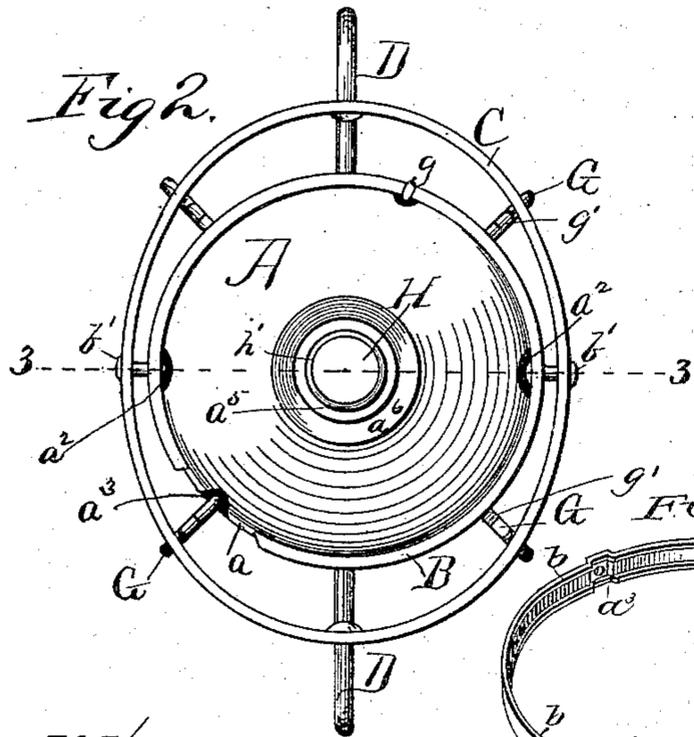


Fig 3.

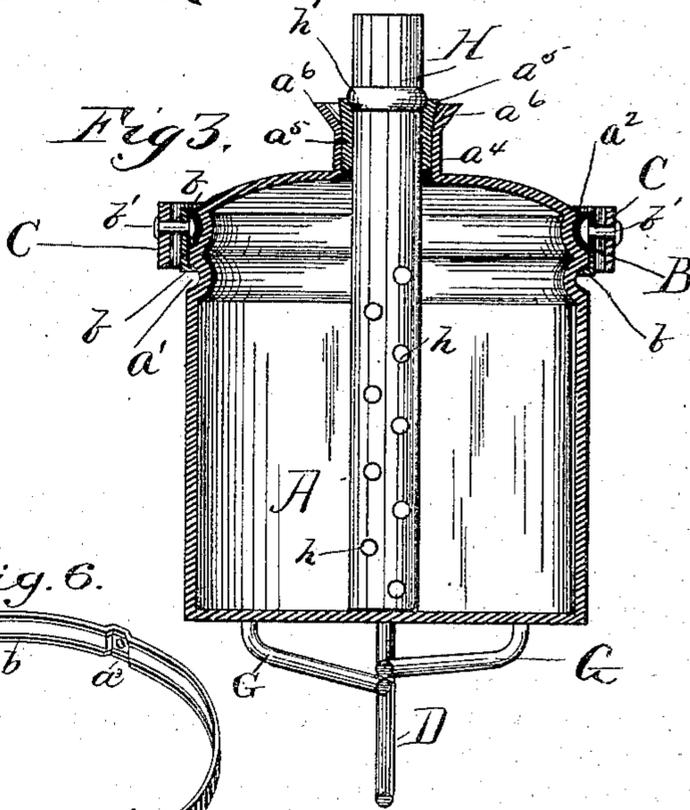
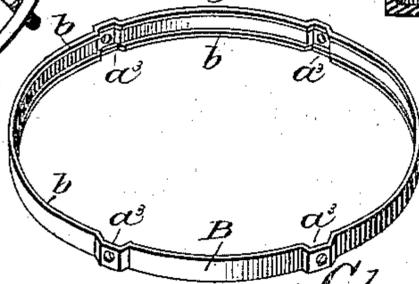


Fig 6.



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# UNITED STATES PATENT OFFICE.

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## TORCH-LAMP.

SPECIFICATION forming part of Letters Patent No. 316,440, dated April 28, 1885.

Application filed April 30, 1884. (No model.)

*To all whom it may concern:*

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

In the present invention the lamp reservoir or bowl is made of glass, and is provided near its top or above its center of gravity with a bead or groove, on or in which fits a metal band or ring to which the supporting-frame is pivoted, either directly or indirectly, through a secondary swivel-ring or gimbals, when it is desired that the lamp shall be permitted to incline in both directions to the pole or staff of the torch.

Another feature of the invention consists in providing this bead or groove with notches or depressions for the ends of the pivots upon which the lamp swivels or turns, and also for the ends of the wire guards, which are made to pass through or partially embrace the band or ring which lies in or over the bead or groove. It will be of convenience to construct the glass lamp with a neck having a cup-shaped flange or extension to serve as a drip-cup to catch any oil which may flow down from the wick. The neck itself may be also made long enough to afford a firm bearing and tight joint for a removable wick-tube, so that no cement or packing will be necessary. A cork, rubber, or other elastic sleeve may, however, with better results surround the wick-tube. The wick-tube should be made long enough to extend to near the bottom of the glass reservoir, so as to envelop or inclose the whole length of the wick, by which means the wick can be readily inserted through the neck without danger of dripping the oil therefrom. The tube should be provided with perforations to admit the oil to the wick.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is a side elevation of the glass reservoir with the frame and band removed, and Fig. 5 is a side elevation show-

ing a slight modification. Fig. 6 shows a modification wherein the notches to receive the ends of the guards are formed in the band, instead of the glass.

In said drawings, A represents the reservoir or oil-receptacle of the lamp, which is made of glass or similar material. B is a band or ring, which is rigidly secured to the glass lamp-reservoir A by means of the bead or projection *a*, raised on the body of the glass reservoir near its top, or at least above its center of gravity, over which bead said band fits. The band or ring, when made of sheet metal, is provided with inturned flanges *b b* at its top and bottom edges to fit over the bead, and thus secure the band in place. If the band or ring B is made of wire, as shown in Fig. 5, it fits in the groove *a'*. The band B is pivoted to a secondary ring, C, by the pins or rivets *b' b'*, and the ring C is in turn pivoted to the yoke or supporting-arms D, so that the lamp may incline in either direction to the torch staff or pole E, the pivots *b' b'* standing at right angles to the yoke or frame D. The arms D are made of stiff wire, and are soldered at their lower ends to the pole-socket F. The socket is made of sheet metal, and should be provided with longitudinal grooves *f*, to receive the wires D, so as to give strength and rigidity to the frame.

The glass reservoir A is provided with notches or depressions *a<sup>2</sup>* in the bead or groove to receive the ends or heads of the pivots *b'*, and similar notches, *a<sup>3</sup>*, for the ends of the guard-wires G. These notches or depressions, in connection with the pivots *b'*, or the guards G, fitting in said notches, also serve to keep the band or ring in place and prevent its slipping or rotating on the reservoir A. The guard-wires G may be four or more in number, and the diametrically-opposite guards may preferably be made continuous in one piece of wire. The guards G are all soldered together at the point *g*, where they cross each other. The ends of the guards G have a short hook or bend, *g'*, at their ends, which are inserted between the ring or band B and the glass reservoir, the same resting in the sockets or notches *a<sup>3</sup>* provided for them.

The ring B, if made of sheet metal, as shown in Figs. 1, 2, 3, and 4, should have holes *b<sup>2</sup>*,

through which the ends of the hooks  $g'$  may project. Otherwise the hooks may simply partially embrace the ring, as shown in Fig. 5.

H represents the wick-tube or burner. It is made of sheet metal, and is provided with perforations  $h$ . It fits within the glass neck  $a^4$  of the lamp A, which neck is made long enough to afford a practically-tight joint; but a cork, rubber, or other sleeve,  $a^5$ , may be inserted between the tube and neck. The neck  $a^4$  is provided with a cup-shaped flange,  $a^6$ , at its top, which will serve to catch any oil that may exude from the wick. The wick-tube H has a bead,  $h'$ , which fits down on top of the neck  $a^4$ , and serves to make the joint tight.

In the modifications shown in Fig. 5, where the ring B is made of wire, it may preferably be composed of two separate pieces of wire, the ends of which are twisted at diametrically-opposite points, so that the twisted portions may form the pivots  $b' b'$ , by which said ring is pivotally connected with the frame D or the intermediate ring, C. The latter, however, in Fig. 5 is omitted. In Fig. 5 it will also be observed that the notches or depressions  $a^3$  for the guards G are formed in the groove  $a'$ .

I desire it be understood that in the specification and claims the bead  $a$  and groove  $a'$ , as a means of securing the ring B to the glass reservoir A, are considered as equivalents of each other, and my invention includes either a raised or a depressed corrugation for securing the band to the glass reservoir.

Where a sheet-metal ring having inturned flanges  $b$  is used, a notch or depression should be made in the glass reservoir where the ends of the ring unite, so that the same may be soldered together without the solder touching the glass.

By making the oil-reservoir A of glass in this manner a much cheaper as well as better torch-lamp is produced than where the reservoir is made of tin or sheet metal, and there is no danger of a glass reservoir leaking.

Instead of forming the notches  $a^3$  for the guards G in the glass as an equivalent construction, these notches may be made in the ring B.

I claim—

1. In a torch-lamp, the combination of a glass oil-reservoir, A, provided with a corrugation, with a ring, B, secured to said reservoir by said corrugation, and frame D, pivoted to said ring, substantially as specified.

2. The combination, with glass reservoir A, provided with a bead or groove near its top having notches or depressions therein, of a ring, B, secured to said reservoir, and guards G, fitting in said notches and secured to said reservoir by said ring B, substantially as specified.

3. The combination of glass reservoir A, provided with a corrugation, with ring B, secured to said reservoir by said corrugation, an intermediate ring, C, pivoted to said ring B, and frame D, pivoted to said ring C, and provided with socket F, substantially as specified.

4. The combination, with glass reservoir A, having a corrugation provided with notches or depressions therein, of a ring, B, ring C, having pivots  $b' b'$  fitting in said notches, and frame D, pivoted to said ring C, substantially as specified.

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Witnesses:

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