C. S. S. & A. L. BARON.

Lantern.

No. 163,136. Patented May 11, 1875.

fig. 1.

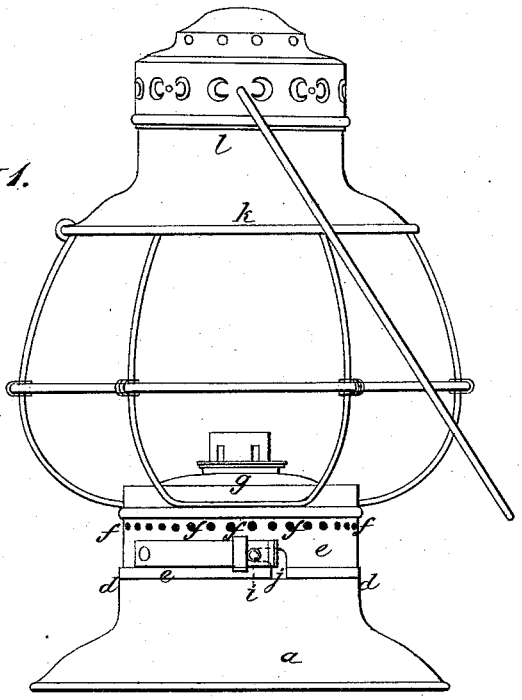


fig. 4.

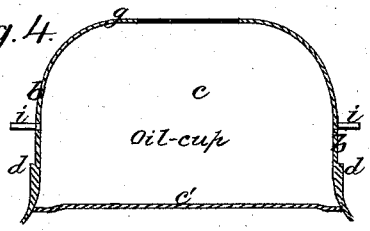


fig. 3.

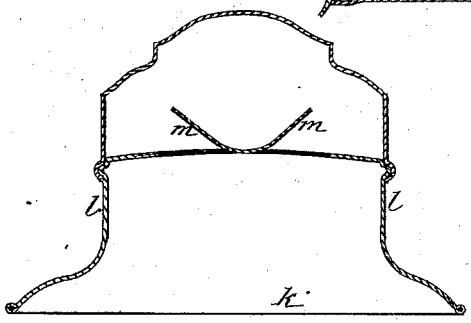
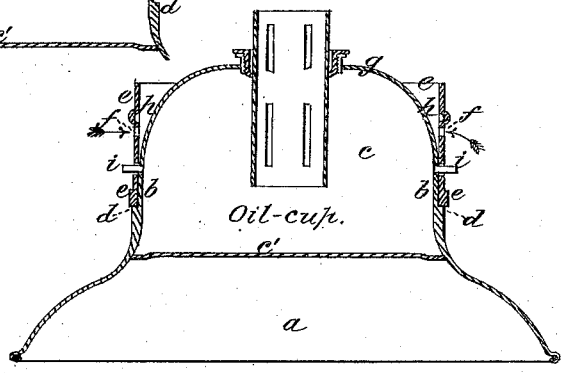


fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES S. S. BARON AND ALFRED L. BARON, OF BELLAIRE, OHIO.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **163,136**, dated May 11, 1875; application filed January 20, 1874.

To all whom it may concern:

Be it known that we, CHARLES S. S. BARON and ALFRED L. BARON, of Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Lanterns, of which the following is a specification:

It is the design of our invention to produce a cheap and durable lantern, to make it with less labor, in less time, at less cost, and more durable than any lantern known to us in the market.

To this end our invention relates to the construction of the two essential parts of a lantern—namely, the top and bottom portions, as these form the expensive and chief parts of the lantern.

The feature claimed as new consists of a lantern having the base, composing the oil-cup, foot, attaching-band, and the supporting-shoulder; and the dome, composing the reflector, the top band, and the ventilator, produced each from a blank sheet, with its several parts integral, and without seam or cutting, and having smooth surfaces throughout when finished, as a new article of manufacture.

The formation of these two essential parts of a lantern, while giving the advantages stated, also gives increased marketable value, and a better article to the public than any lantern in which the base and dome are made of parts united by solder, which are constantly liable to break at the joints, or become loosened by hard usage. The quickness with which we form the complete base and dome is a matter of vital importance, and this, added to the strength obtained by making these parts each from a single piece of tin with no loss, enables us to give the public a cheap and strong lantern.

It is not designed to claim in this patent any well-known process of metal-stamping; but we are not aware that the base and dome of a lantern composed of the parts described have been stamped as separate integral things, for the reason that hitherto it has been found impossible to so produce these things as a unit of perfect finish and form.

By our invention the ventilator cannot be knocked out of place or melted loose, as is liable to be done when made separate from, and soldered to, the dome.

In the accompanying drawings, Figure 1 represents an elevation of a lantern embracing our invention; Fig. 2, a vertical section of the base and oil-cup, enlarged; and Fig. 3, a similar section of the dome, reflector, and ventilator, enlarged.

To enable others skilled in the art to construct our improved lantern, we will proceed to give a more full and specific description of the construction thereof.

The foot *a*, the vertical band *b*, for attaching the base to the lantern, and the oil-cup *c* are made from a single piece of sheet-tin without joint, except the bottom *c'* of the oil-cup, which is soldered in from the under side to the curved foot. In the process of forming this cup, an annular shoulder or bead, *d*, is also formed or spun upon the circumference of the band *b*, near its junction with the foot *a*, to form a close seat for the guard-band *e*, which embraces the cup *c*. The guard-band *e* is provided with perforations *f* near its top, and the crown *g* of the cup is made arched to form an open space, *h*, between it and the perforations, to afford the required air ventilation for the light. The locking-pins *i* for the guard-band *e* are fixed in the vertical sides of the oil-cup, and the guard-band has the usual angular slots *j* for locking with the pins. The dome, with its reflector *k*, the band *l*, and the ventilator *m*, is made also from a single piece of sheet-tin, and finished by attaching any of the known forms of brass tops to the crown of the dome by any simple process—the parts described as a unit taking the place of three separate parts hitherto employed for the purpose—namely, the reflector, the band, and the ventilator. The method of obtaining these results is as follows, viz: As to the base, we take a flat circular piece of sheet-tin, of proper size to form the foot, base-band, and top of oil-cup, and draw or stamp it down about one-third the distance required, in a die resembling in shape an ordinary tin pan with an annular flange encircling the top. This is found necessary owing to the great strain on the tin which results from any attempt by ordinary methods to force it into the required shape of the base

at one operation, as all our efforts hitherto made to reduce sheet-tin of so small a diameter to such great depth and peculiar shape by the processes ordinarily used for stamping tin vessels had totally failed. In the next operation, the sides of the pan-shaped vessel, as above described, are spun upon a head or chuck of shape corresponding to said vessel on an ordinary tinman's lathe. At the same time the annular flange remaining after the previous operation is sprung up straight, thus forming the vessel into the most advantageous shape for bearing the great strain on the tin in the subsequent operations requisite for completing the base. The remaining operations are performed by using four several dies, the first of which is used for the purpose of converging the vessel midway at the sides about the distance of one-quarter of an inch, as, if the distance so converged were made greater than this at a single forcing, the wrinkles resulting would form folds, thus rendering the vessel worthless for the subseqent operations. The next die is made to force in the sides a distance of about the same measurement as that of the preceding operation, and so on, all four of the dies severally taking in the tin about the distance above mentioned, until the base is completed, the last of the four dies being, of course, of the desired shape of the base when finished.

The method of making and finishing the dome is substantially the same as that of the base, and in which the reflector, the top band, and the ventilator are made from one piece, with the ventilator proper formed in the bent portion of the dome *m* by openings provided with radiators or deflectors for the rising hot air. The brass cap which surmounts the dome is a separate thing from the ventilator *m*, made with the reflector.

The other parts of the lantern may be made in the usual or any approved manner, and provided with a continuous or other globe-guard.

The following is claimed as new in lanterns, namely:

A lantern having the base composing the oil-cup top *c*, foot *a*, attaching-band *b*, and the shoulder *d*, and the dome composing the reflector *k*, the top band *l*, and the ventilator *m*, produced each from a single sheet, with its several parts integral and without seam or cutting, and having smooth surfaces throughout when finished, as a new article of manufacture, as herein specified.

In testimony whereof we have hereunto set our hands.

CHARLES S. S. BARON.
ALFRED L. BARON.

Witnesses:
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