C. REICHMANN.

Lamp.

No. 21,576. Patented Sept. 21, 1858.

Fig. 1.

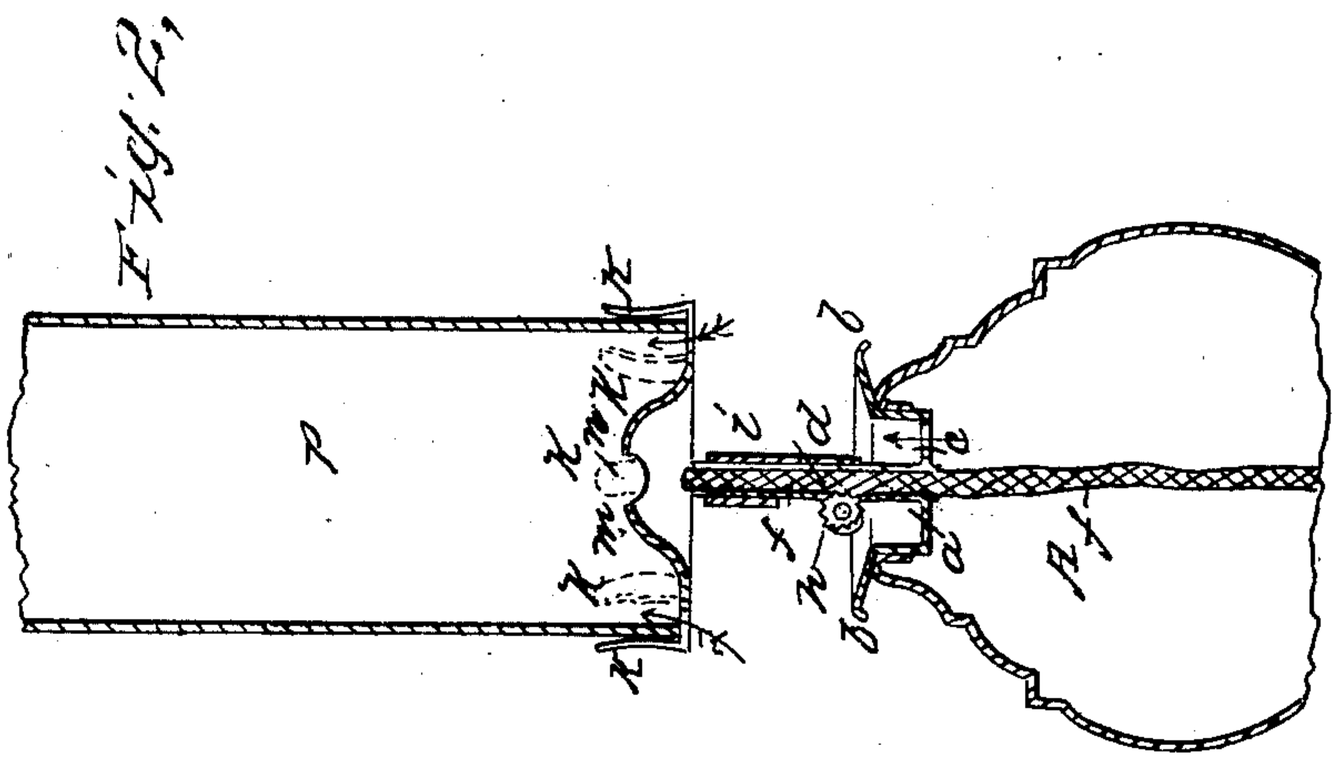


Fig. 3.

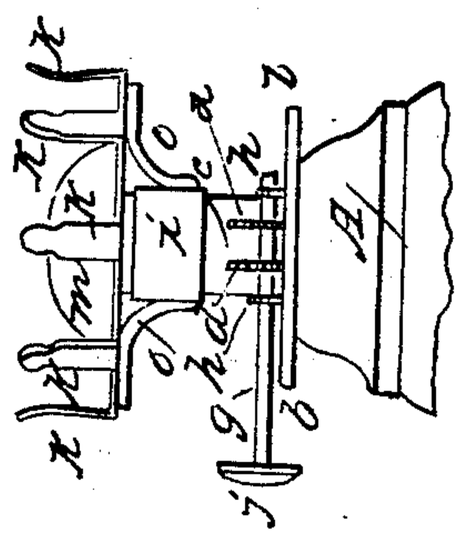
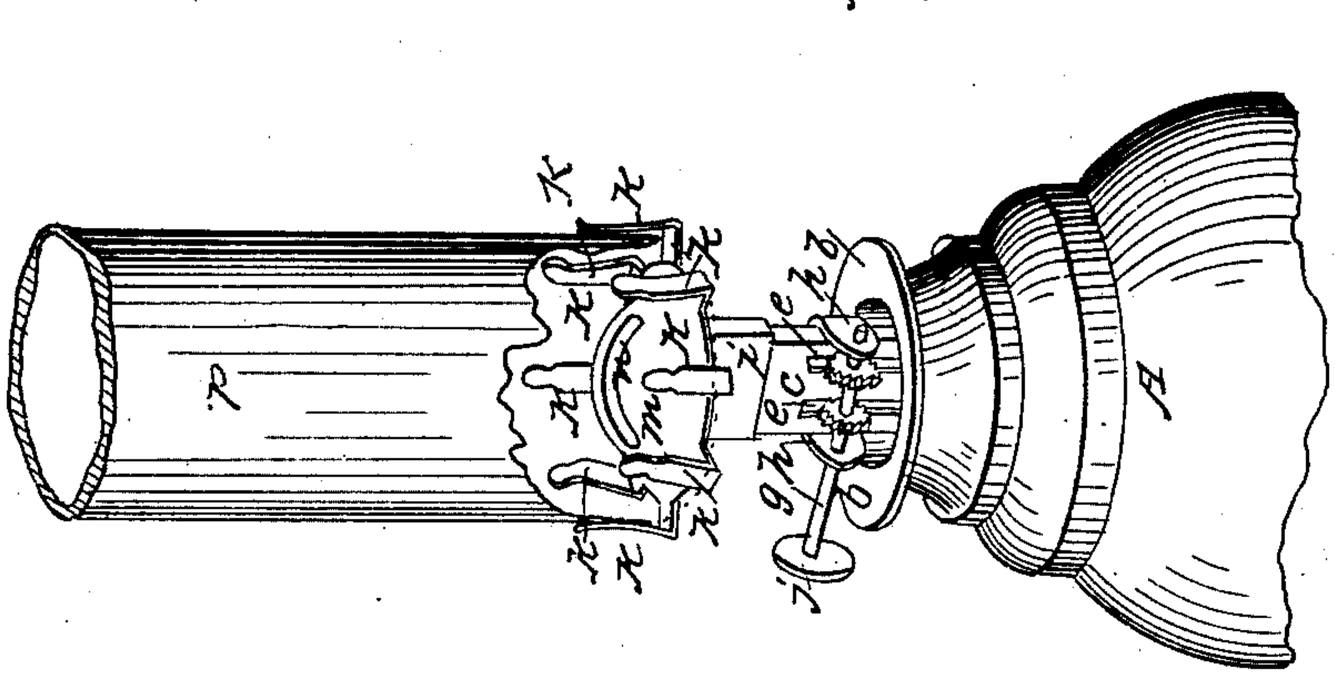


Fig. 2.



UNITED STATES PATENT OFFICE.

CHRISTIAN REICHMANN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **21,576,** dated September 21, 1858.

To all whom it may concern:

Be it known that I, CHRISTIAN REICHMANN, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in the Construction of Lamps for burning oils that are heavily charged with carbon, such as benzole, kerosene, paraffine, or other coal-oils; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the upper part of the lamp. Fig. 2 represents a vertical central section, and Fig. 3 represents the manner of attaching and supporting the open bell-shaped cap on the tube.

Similar letters of reference, where they occur in the separate figures, denote like parts of the lamp in all of them.

I am aware that lamps have been devised in which coal-oils are burned; but they have serious objections, among which may be mentioned as most prominent the number of manipulations necessary to light them, the darkening of the under part of the lamp, the light being thrown entirely upward, the inability or trouble in filling them when burning, and, finally, the inaccessibility to the wheels for raising and lowering, and the tube for directing, the wick. By my manner of constructing the lamp I avoid all these imperfections, and by a much more simple mode than heretofore practiced I introduce the atmospheric air to the flame above and below the slotted cap, without which supply of air the lamp will not burn without smoking.

The nature of my invention consists in the slotted open bell-shaped cap—that is, a cap which admits of the external air passing in between its outer margin and the chimney, and which also allows the light to be reflected downward or toward the lamp as well as above it.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a lamp, which may be of any of the ordinary forms. The cap or top *a*, that covers the bowl of the lamp, is of a cup shape, with a broad flange, *b*, at its top. There is a hole through the bottom of this cap by which and the cup shape of said cap the lamp may be readily replenished while it is burning. A slot is made in the bottom of the cap *a*, into which the lower end of a flat wick-tube, *c*, is inserted and fastened. This tube *c* may be about two inches long, and has two vertical slots, *c c*, cut in it, through which the teeth of the two wheels *d d* pass and into or against the wick *f*, passing through said tube. The wheels *e e* are permanently fixed on a shaft, *g*, supported in bearings *h*, attached to the tube *c*, and a thumb-piece, *j*, on the shaft or rod *g* allows it to be easily turned, and thus raise or lower the wick. The cap *a*, tube *c*, rod *g*, and its wheels are united and come off together. They form the middle section of the lamp, the stand and bowl forming the lower section thereof. There is also a third or upper section of the lamp, which completes it, and is as follows: *i* is a slide or loop that fits over the flat tube *c*, and when in place is supported thereon. On this slide *i* there are arms or brackets *o o*, to which the slotted open bell-shaped cap *m* is attached and by which it is supported.

The open bell shaped cap is made as follows: A slot, *n*, considerably larger than the wick *f*, is made across the crown or dome of said cap, and at its outer perimeter there is a series of vertical arms or supports, *k k k*, &c., within and by which the chimney *p* is held. The spaces between the arms *k k* are so cut away as that the external air may freely pass in to supply the lamp underneath and between the bottom of the chimney *p* and the periphery of the said cap *m*. The chimney in my lamp may be straight, and not swelled out around the flame. The slot *n* being much larger than the wick, the necessary air to effect proper combustion at that point enters alongside of the wick.

It will be perceived that the middle section of the lamp exposes but little more surface than that of the wick-tube alone. This produces several important advantages besides the dispensing with several pieces entirely that have heretofore been used on this kind of lamp, viz: It allows the lamp to be filled while burning. It exposes the toothed wheels, tube, and wick to view, so as to readily see whether they are in order. It allows the light from the under part of the bell-cap *m* to be re-

flected or thrown down toward the lamp. It can be lighted by simply lifting off the chimney or by applying the light underneath the cap *m*, and the openness of the bell-cap *m* causes a better light by making less shadow than heretofore.

Having thus fully described the nature and object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

In combination with the lamp, the slotted open bell-shaped cap *m*, when so constructed, arranged, and operating as to allow the light to be deflected downward, substantially in the manner and for the purpose herein set forth and explained.

CHRISN. REICHMANN.

Witnesses:

C. BRAZER,

OSBORN CONRAD.