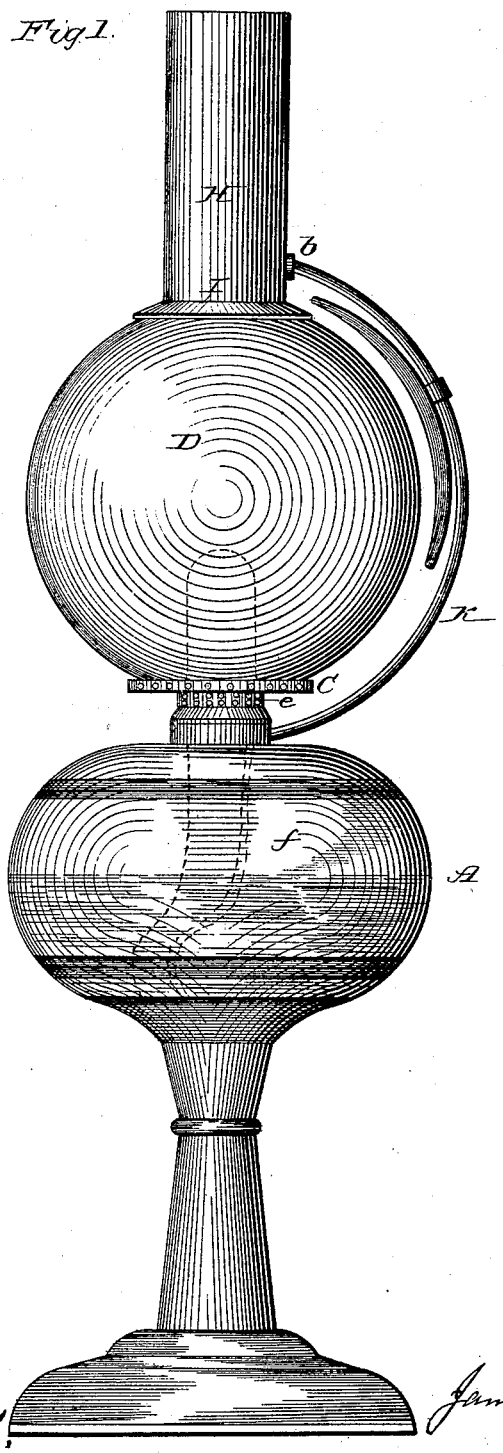
(No Model.) 2 Sheets—Sheet 1.

J. J. JOHNSTON

LAMP.

No. 265,823. Patented Oct. 10, 1882.

Fig 1.



WITNESSES

Fred. G. Dieterich

Jno. H. Stockett

INVENTOR

James J. Johnston.

(No Model.) 2 Sheets—Sheet 2.

J. J. JOHNSTON.

LAMP.

No. 265,823. Patented Oct. 10, 1882.

Fig 2

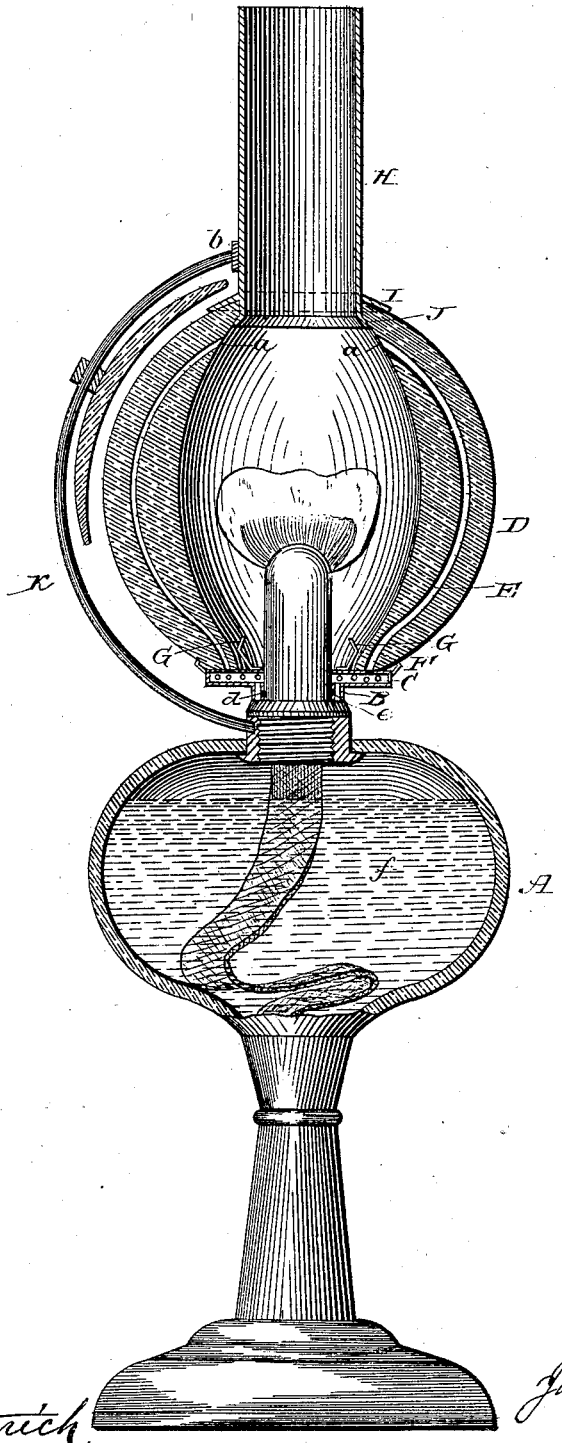
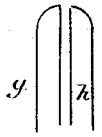


Fig. 3.



WITNESSES

Fred. L. Dieterich

Jno. H. Hackett

INVENTOR

James J. Johnston

UNITED STATES PATENT OFFICE.

JAMES J. JOHNSTON, OF COLUMBIANA, OHIO, ASSIGNOR TO THE UNITED STATES IMPROVEMENT COMPANY, (LIMITED,) OF SAME PLACE.

LAMP.

SPECIFICATION forming part of Letters Patent No. 265,823, dated October 10, 1882.

Application filed February 11, 1882. (No model.)

To all whom t may concern:

Be it known that I, JAMES J. JOHNSTON, of Columbiana, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in lamps; and it consists in a burner adapted to receive a globe constructed in two parts united together, forming a universal concave-convex lens, with two air-channels communicating with an air-chamber of the burner and discharging currents of air at a point in the interior of said globe above the flame of the lamp, and combining with said globe a chimney constructed of sheet metal, and in attaching to said chimney and burner a support forming a section of a circle for carrying an adjustable reflector, all of which will hereinafter more fully and at large appear.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a side elevation of my improvement in lamps. Fig. 2 is a vertical section of the same. Fig. 3 is a detail vertical section of the burner.

Reference being had to the accompanying drawings, A represents an ordinary lamp provided with a burner, B, having an air-chamber, C, furnished with a large series of very small openings for the admission of air into said chamber and from it into the interior of the globe D, which is constructed in two parts and furnished with two air-channels, E, which channels communicate with the chamber C and with the interior of the globe at *a*. On the outer wall of the chamber C are a series of supports, F, for the globe D, and on the upper wall of said chamber are spring-supports G, which, combined with the supports F, will hold the globe D firmly upon the burner B. The globe D forms a universal concave-convex lens, which globe is constructed in two parts, with vertical curved channels E formed in their meeting faces, as shown in the accompanying drawings. When so constructed the surfaces of the walls forming the joint between the two parts should be ground so as to form what is known as a "ground joint," and the parts united together by a cement or a glue, such as "Chase's glue," well known in the arts. The globe D is furnished with a chimney, H, having a flange, I, adapted to the form of the exterior of the globe around its upper opening, and said chimney is also furnished with a flange at its lower end, adapted to the form of the interior of the globe near its upper opening, which flange is notched, as shown in Fig. 2, so as to form a series of springs, which yield sufficiently to allow the notched flange J and the portion of the chimney below the flange I to contract, so as to be easily inserted in the upper opening of the globe D.

To the burner B at *c* and to the chimney H at *b* is attached a wire, K, forming the section of a circle, upon which is placed an adjustable reflector, L. The wire K at *c* is secured to the burner B by screw-threads, as indicated in Fig. 2, and at *b* by a dovetail fastening. By this arrangement of the wire K and the reflector L they can be readily removed when it is desirable to dispense with the reflector and said wire.

The form of the interior of the globe is clearly shown in Fig. 2.

The construction of the lamp will be readily understood from the foregoing description and by reference to the accompanying drawings. I will therefore proceed to describe its operation and advantages.

The lamp being furnished with wick and oil in the usual way, and the wick lighted, and the globe and chimney arranged on the lamp as shown in the accompanying drawings, air passes through the small openings in the walls of the chamber C, and from said chamber through openings into the interior of the globe D. Air also passes from chamber C up through the channels E in the globe D, and is discharged at *a* above the flame of the lamp, by which arrangement the globe is not liable to smoke and the flame of the burner is increased in steadiness and brilliancy. The burner is furnished with several tubular channels, *e*, which communicate with the chamber C and the oil-cham-

ber *f* of the lamp, and with the case *g*, surrounding the wick-tube *h*, by which arrangement the gas, which would otherwise accumulate in the oil-chamber *f*, is carried up and brought in contact with the flame of the lamp and is consumed.

The advantages of the lamp hereinbefore described are—

First, the light is intensified by the peculiar construction of the globe, it forming a universal lens.

Second, the light can be deflected at any desired angle by the adjustable reflector.

Third, the form of the globe and its great thickness will avoid breakage.

Fourth, the brilliancy of the flame of the lamp is increased, and its tendency to smoke is avoided to a very great degree.

Fifth, by the combination of the air-chamber C and gas-channels *e*, communicating with the interior of the lamp and with the interior of the casing surrounding the wick-tube, the gas, as it is evolved in the oil-chamber *f*, is carried up, commingled with atmospheric air, to the flame of the lamp, where the commingled air and gas are consumed, thereby forming a perfect safety-lamp.

Having thus described my improvement, what I claim is—

1. In a lamp, a globe constructed in two halves, having air-channels in the walls thereof to prevent smoking and give increased steadiness to the flame, said globe forming a universal concave-convex lens for the lamp-flame, substantially as herein described, and for the purpose set forth.

2. In a lamp, a globe forming a universal concave-convex lens for the lamp-flame, in combination with a metallic chimney having flanges I and J, substantially as herein described, and for the purpose set forth.

3. In a lamp, the detachable wire K, forming a section of a circle, secured at its lower end to the burner B and at its upper end to the chimney H, said wire having an adjustable deflector, substantially as herein described, and for the purpose set forth.

JAMES J. JOHNSTON.

Witnesses:
A. C. JOHNSTON,
T. D. D. OURAND.