F. S. SHIRLEY.

LAMP SHADES AND GLOBES.

No. 187,423. Patented Feb. 13, 1877.

Fig. 1.

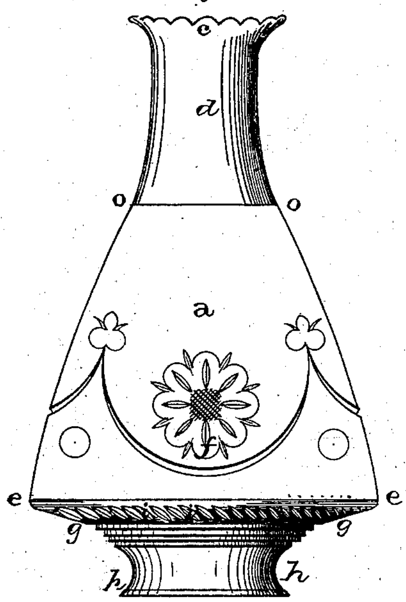


Fig. 2.

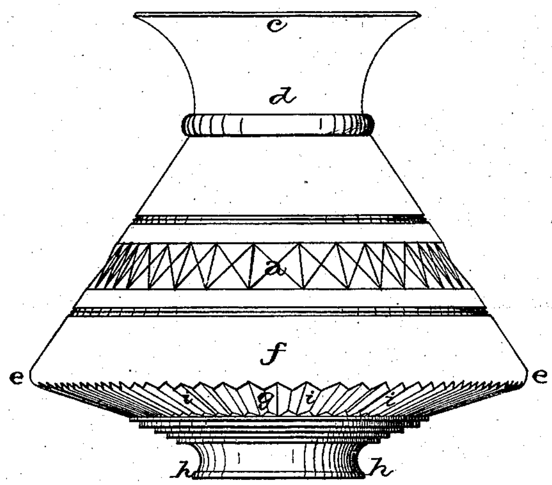


Fig. 3.

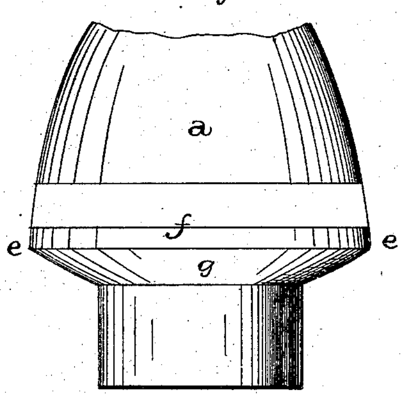
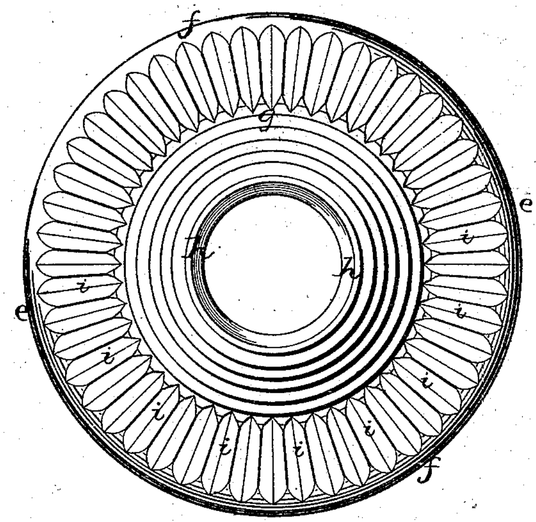


Fig. 4.



WITNESSES:

J. Wm. Garner,
F. H. Burnham.

INVENTOR:

F. S. Shirley
per
F. A. Lehmann, atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK S. SHIRLEY, OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN LAMP SHADES AND GLOBES.

Specification forming part of Letters Patent No. **187,423**, dated February 13, 1877; application filed January 18, 1877.

To all whom it may concern:

Be it known that I, FRED. S. SHIRLEY, of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Shades and Globes for Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in shades and globes for lamps; and it consists in so shaping them that their base shall sweep abruptly inward from the shoulder, and thus form a radiating-surface, which is corrugated or cut so as to break the light and diffuse it downward, thereby producing a beautiful and brilliant effect. The upper portion of the shade and globe is roughened, so as to protect the eyes, and to act as a reflector to cast down the light through the corrugated reflecting-surface.

Figures 1 and 2 are side elevations of two of my shades, and Fig. 3 is a detail view of the same.

a represents the shade, which is preferably made with a crimp or other ornamental top, *c*, so as to give beauty and finish to the shape. When made more in the shape of a chimney, the outline is curved inward and downward, so as to form the contracted neck *d*, and from the neck the shape curves outward and downward to the point *e*, forming the body or base *f* of the shade. When made more in the shape of a globe, the top will be made much larger, the neck not so long and tapering, and the base at the line *e* correspondingly larger. From the point *e* the shape sweeps abruptly inward on any suitable curve forming the radiating-surface *g*, which has cut or molded into it the corrugations *i*. The lower edge of the shade may either have the flange *h*, so as to adapt it to hinged lamp-burners, or be made perfectly straight for the common straight burners, as may be preferred. At the point *o*, or any suitable distance below the neck, down to the point *e*, the outside of the chimney is roughened, so as to protect the eyes from the glare of the light, and to serve as a reflector to throw down the light through the reflecting-surface *g*, thereby producing a brilliant and beautiful effect. Around the base *f*, at any suitable distance above the line *e*, there are cut, or otherwise formed, any ornamental figures or designs that may please the eye or the fancy dictate. In order to insure perfect combustion and the greatest amount of light, the base, neck, and height of the chimney must be accurately proportioned; and these proportions I have found to be, after careful experiments, about as follows:

Bottom opening.	Diameter at *e*.	Largest diameter.	Diam. top opening.	Height from *e*.	Whole height.
Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
2	$5\frac{1}{4}$	$5\frac{1}{4}$	$1\frac{1}{4}$	$7\frac{1}{4}$	$8\frac{3}{4}$
$2\frac{7}{8}$	$5\frac{1}{4}$	$5\frac{1}{4}$	$1\frac{3}{8}$	$7\frac{1}{4}$	$9\frac{1}{4}$
$2\frac{3}{4}$	$7\frac{3}{4}$	$7\frac{3}{4}$	2	$6\frac{1}{4}$	$8\frac{1}{2}$
$2\frac{1}{8}$	$7\frac{1}{2}$	$7\frac{1}{2}$	$2\frac{3}{16}$	$5\frac{1}{2}$	7
2	$4\frac{1}{4}$	$6\frac{3}{4}$	$1\frac{5}{16}$	7	$7\frac{3}{4}$
2	$4\frac{3}{8}$	7	$2\frac{1}{8}$	$6\frac{1}{2}$	8
$1\frac{3}{4}$	4	7	2	$6\frac{1}{4}$	8
$1\frac{3}{4}$	$4\frac{1}{4}$	$6\frac{1}{2}$	$1\frac{7}{8}$	5	$6\frac{1}{2}$
$1\frac{7}{8}$	$4\frac{3}{4}$	$6\frac{3}{4}$	$1\frac{3}{8}$	9	$10\frac{1}{4}$
$1\frac{7}{8}$	$4\frac{1}{2}$	7	$1\frac{3}{4}$	$6\frac{3}{4}$	$8\frac{1}{4}$

Although but two forms are shown, it is apparent that the sizes, shapes, and forms of my shades may be greatly varied, as the taste and fancy may dictate; but it should be understood that each part governs the size of the other parts, and that the base-line *e* should be so proportioned to the burner which it is to fit as to bring the line *e* on, or nearly on, a level with the base of the flame.

When the proportions of these parts are accurately adjusted the light will be brilliant, strong, and steady, and without any smoke, as the smoke will all be consumed. Almost absolute safety against breakage from heat is another great advantage gained.

Having thus described my invention, I claim—

1. A lamp globe and shade provided with a corrugated radiating-surface, substantially as shown.

2. A lamp globe and shade that is roughened to form a reflector, and provided with a corrugated radiating-surface, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of January, 1877.

FREDK. S. SHIRLEY.

Witnesses:

WENDELL H. COBB,

WALTER CLIFFORD.