2 Sheets—Sheet 1.

J. B. ALEXANDER.

Lamp Shade.

No. 88,430. Patented March 30, 1869.

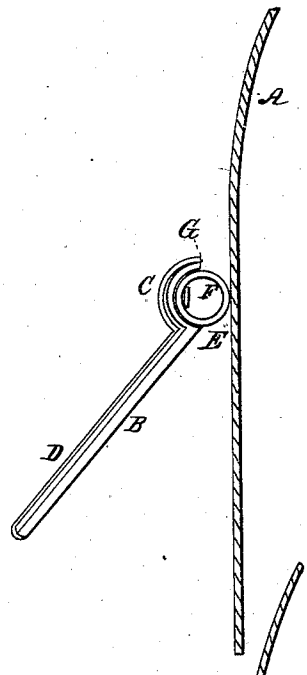


Fig. 1.

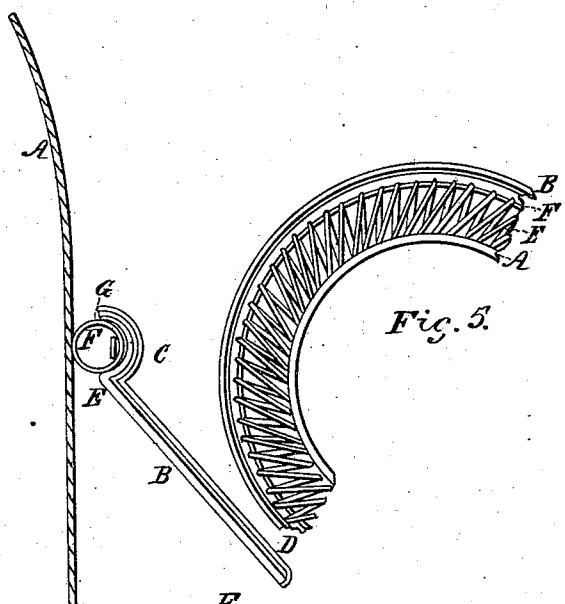


Fig. 5.

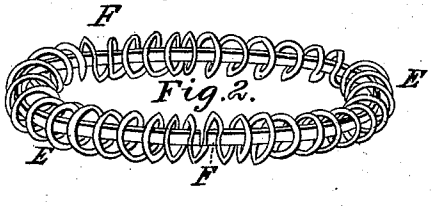


Fig. 2.

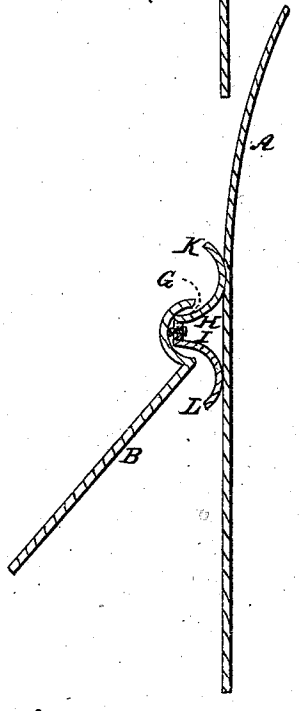


Fig. 3.

Fig. 4.

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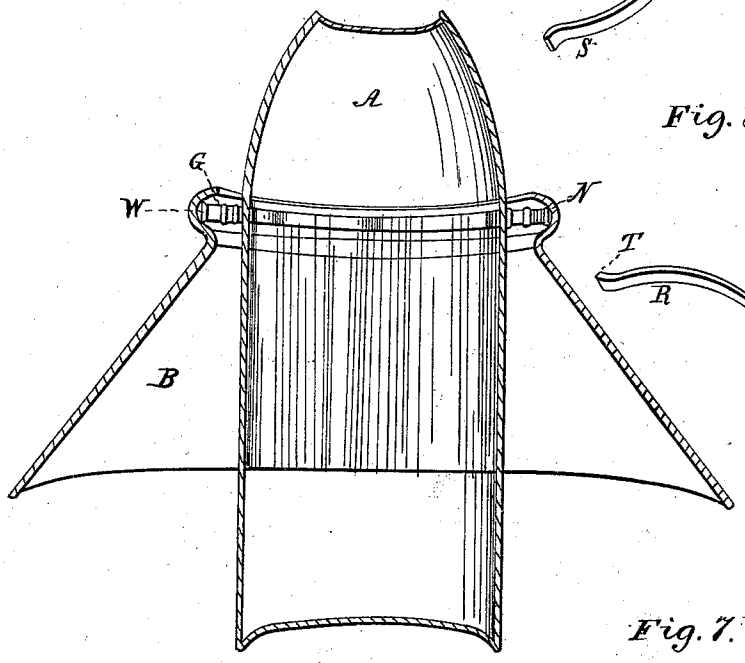
2 Sheets—Sheet 2.

Lamp Shade.

No. 88,430.

Patented March 30, 1869.

Fig. 6.



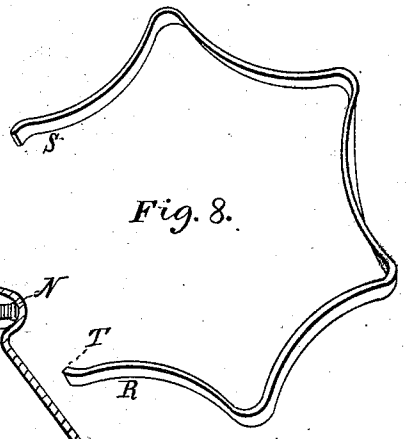


Fig. 8.

Fig. 7.



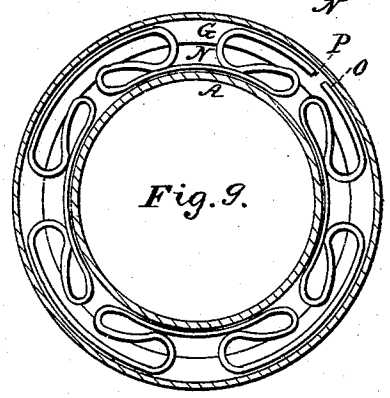


Fig. 9.

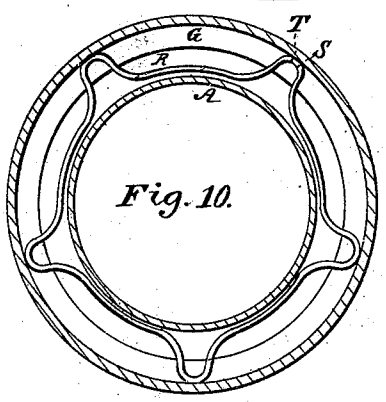


Fig. 10.

Witnesses:

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United States Patent Office.

JOSEPH BELL ALEXANDER, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 88,430, *dated March* 30, 1869.

IMPROVEMENT IN LAMP-SHADES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH BELL ALEXANDER, of the city of Washington, in the District of Columbia, have invented a new Improvement in Lamp-Shades; 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, making a part of this specification, in which—

Figure 1 represents a vertical section of a glass or porcelain lamp-shade, supported by the glass chimney of a lamp by means of a combined band-spring and helical spring.

Figure 2 represents, in perspective, the combined band and helical springs, as separated from the lamp-shade.

Figure 3 represents a vertical section of a glass or porcelain lamp-shade, supported by the glass chimney of a lamp, by means of a band-spring, combined with three or more pronged springs.

Figure 4 represents, in perspective, the combined band-spring with the pronged springs, as separated from the lamp-shade.

Figure 5 represents part of a transverse section of fig. 1, at C.

Figure 6 represents, in perspective, a vertical section of a lamp-shade, supported on the glass chimney of a lamp by means of a spring, as seen in figs. 7 and 9.

Figures 7 and 8 represent, in perspective, two different forms of a spring, struck up from a strip of sheet-metal.

Figure 9 represents a transverse section of fig. 6, at the point marked W, showing the spring represented in fig. 7.

Figure 10 represents a transverse section of fig. 6, at the point marked W, showing the spring represented in fig. 8.

Similar letters of reference denote like parts, where they occur, in the several figures of the drawings, in which—

A is a glass lamp-chimney.
B is a glass or porcelain lamp-shade.
D is a coat of silver upon the exterior surface.
C is a coat of paint or varnish over the silver.
E is a helical spring.
F is a band-spring, divided at one point.
G is a groove formed in the top of the lamp-shade.
H is a band-spring, like F.
I is a rivet, attaching the spring M to the spring H.
K is an upper prong of the spring M.
L is a lower prong of the spring M.
M is a double-pronged spring, three or more of which are attached to the periphery of the band-spring H.
N is a band-spring of serpentine form.
O and P are the two free ends of the spring N.
R is a band-spring, of stellar form.
S and T are the two free ends of the spring R.

The nature of my invention consists in providing the upper rim of a glass, metal, or porcelain lamp-shade with a groove, which is so formed as to admit one part of a spring, or combination of springs, which are so arranged and combined, as, by centrifugal pressure, to attach itself to the lamp-shade, while, by centripetal pressure, it will attach and support itself with the lamp-shade or reflector adjustably upon the external surface of a glass chimney of a lamp.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I make a glass, metal, or porcelain lamp-shade, or reflector, by any of the methods in common use, and in any known pattern, with the exception that I cast, mould, or blow on the upper rim of said shade, or reflector, a groove, (see G, in the drawings,) which is concave inwardly, and convex outwardly.

If I desire to make a powerful reflector, I make the shade of glass, and deposit some bright metal, like silver or gold, by precipitation (see blue line D) upon the whole external surface of the shade. I then cover the entire metallic surface (see red line C) with paint, japan, or any other suitable varnish or substance, upon which any ornamentation may be made, either flat or in relief. I then make a coil of spring-wire, (see E, figs. 1 and 2,) of such a diameter that one-half will readily slip into the groove G. Through the centre of this coil I insert a band of spring-metal, (see F, figs. 1 and 2,) which has two ends meeting, but not joined together, so that by pressure, the ends will slip past each other, thus reducing the size of the circle of the combined spring, so that it will easily slip through the upper rim of the shade, and then, by expansion, adjust itself in the groove G.

If the shade, with this combined spring attached to it, be now slipped upon the glass chimney of a lamp, (the inner circle of the coil being a little less in circumference than the full outer circle of the chimney,) the helix E not being able to recede, or roll back, on account of the unyielding character of the groove G, its numerous convolutions assume an oblique line, thus forming a powerful and most efficient adjustable support for lamp-shades, or reflectors, of such heavy material as glass, metal, or porcelain.

The proper manner of slipping this combined form of spring and shade upon a lamp-chimney is a twisting, or screwing motion, either right or left, so as to cause the convolutions of the helix to assume the oblique direction.

Or, if I desire a spring embracing the same centrifugal and centripetal elements, which will slip on the chimney in a direct up-and-down movement, I combine the band-spring H, fig. 4, (which is the equivalent of the spring F, fig. 2,) with the bent-prong springs K L M, figs. 3 and 4, three or more of which are attached to the spring H, by means of the rivets I I I, upon its

periphery, at equal distances apart. This combination of springs may be compressed by making the free ends of the spring H slip by each other, so that the whole spring H, with the parts M M M of the prong-springs, will easily slip by expansion, into the groove G, thus attaching itself to the shade B. The prongs K K K and L L L will now slide easily upon the outer surface of the glass chimney, by a downward or upward movement, and by their centripetal pressure, support the shade at any desired height.

Or, if I desire a spring embracing all the important characteristics of those above described, but of more simple construction, I take a narrow strip of thin sheet-metal, and after cutting it to the proper length, I bend it into the serpentine shape of the spring N, (see figs. 7, 9, and 6,) or into the stellar shape of the spring R. (See figs. 8 and 10.)

The ends O and P of the spring N, and the ends S and T of the spring R, being free to slip by or upon each other, render these springs easy of insertion and adjustment in the groove G of the shade B.

I do not claim a glass, metal, or porcelain lamp-shade, or reflector; nor do I claim a glass shade, or reflector, silvered or painted; nor do I claim the helical spring, nor a spring with prongs or tongues, all of which are old, and public property.

What I do claim, and desire to secure by Letters Patent, is—

The combination of the groove G, formed on the upper rim of a lamp-shade, or reflector, with the spring N, or any other suitable spring, for the purpose of supporting adjustably the said lamp-shade, or reflector, on the glass chimney of a lamp, substantially as described and set forth.

J. B. ALEXANDER.

Witnesses:
WM. HAMILTON,
T. R. PEALE.