J. WILSON.

INCANDESCENT LAMP.

APPLICATION FILED JUNE 4, 1910.

1,014,686.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.

Fig. 2.

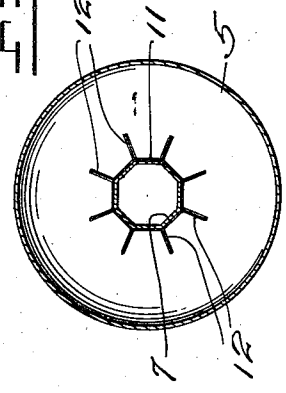


Fig. 4.

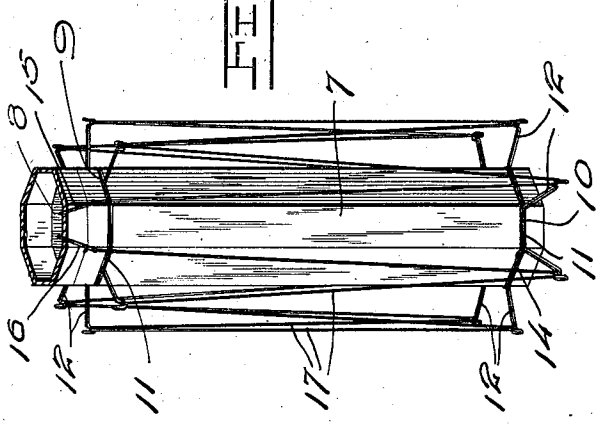
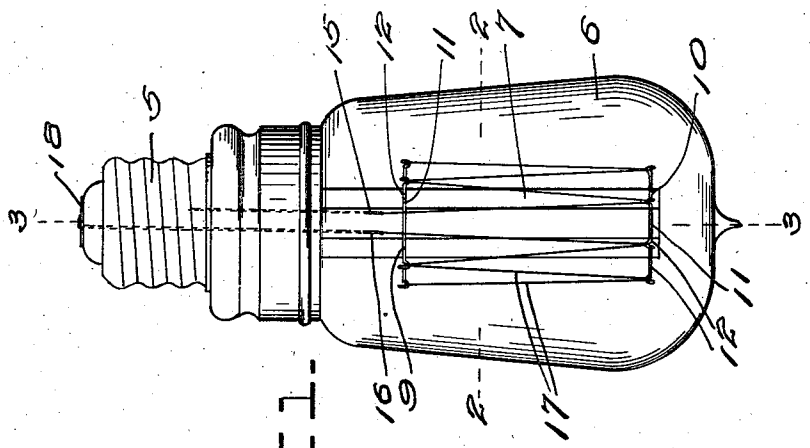


Fig. 1.



Witnesses

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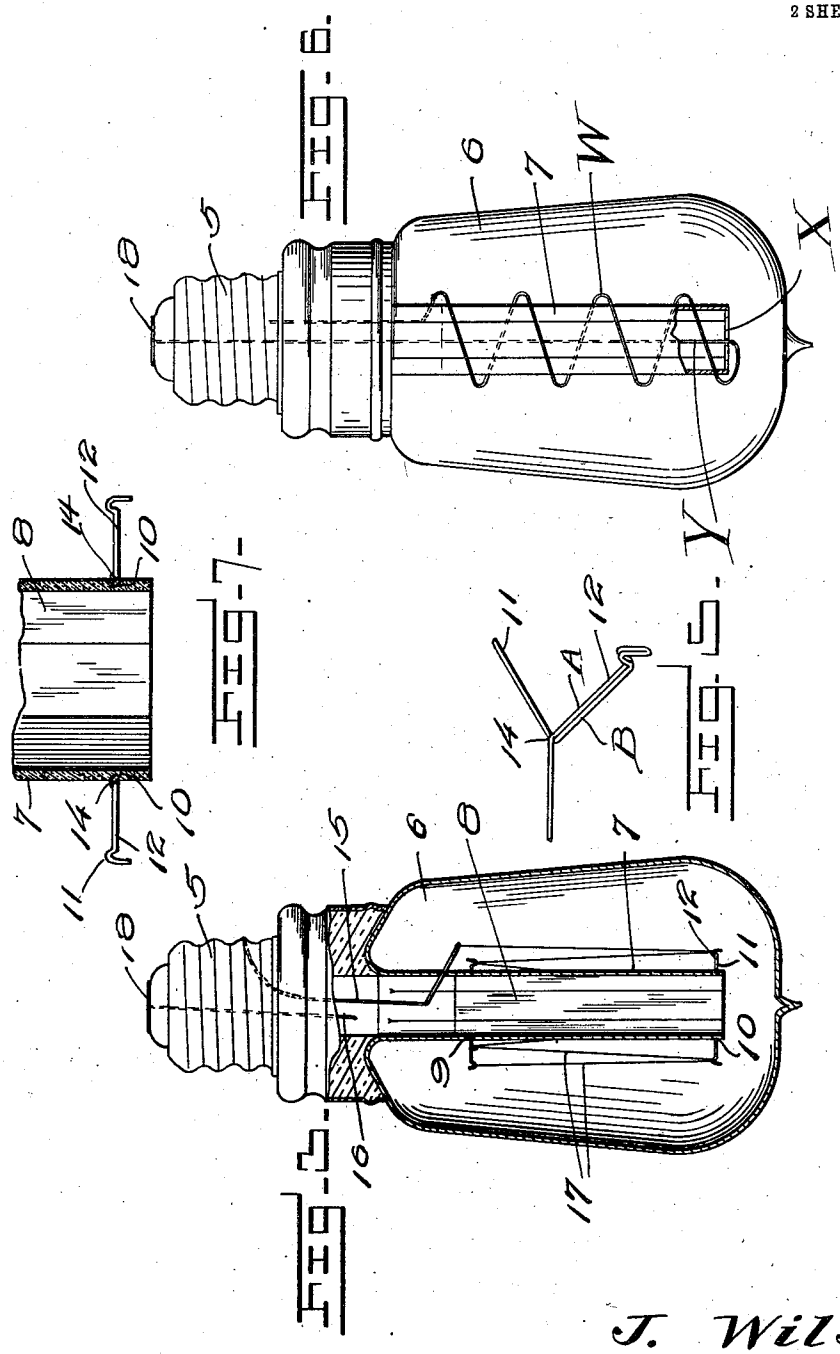

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UNITED STATES PATENT OFFICE.

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INCANDESCENT LAMP.

1,014,686. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed June 4, 1910. Serial No. 565,018.

To all whom it may concern:

Be it known that I, JOHN WILSON, residing at Victoria, in the Province of British Columbia and Dominion of Canada, have invented certain new and useful Improvements in Incandescent Lamps, of which the following is a specification.

This invention relates to incandescent electric lamps, and more particularly to tortuous filament lamps, such as are usually made with tungsten or tantalum filaments, and has for its object to provide a lamp having an interior reflector arranged to reflect the light rays emanating from the filament and thus magnify the brilliancy of the light.

Another and particular object is to provide a lamp of this character in which the reflecting element performs not only its function as a reflector, but also acts as the insulating supporting stock for the filaments.

Another object is to provide a structure in which the ends of the several lengths of the filament will be supported, without communicating with the reflecting material within the stock.

In the drawings forming a portion of this application, and in which like numerals of reference indicate similar parts of the several views,—Figure 1 is an elevational view of a lamp constructed in accordance with the present invention. Figure 2 is a transverse section on line 2—2 of Fig. 1. Fig. 3 is a longitudinal section on line 3—3 of Fig. 1. Fig. 4 is a detailed perspective view of the stock and the filament attached thereto. Fig. 5 is a detailed view of the supporting spider in elevation, removed from the stock. Fig. 6 is a view showing a modified form of filament and mounting therefor. Fig. 7 is a fragmentary sectional view of the lower end of the stock.

Referring now to the drawings, there is shown an electric lamp including an attaching plug 5 to which there is attached the usual bulb 6. Within the bulb, there is a centrally located longitudinally extending hollow glass supporting stock which is polygonal in cross section and which, at its inner end, is connected with the inner extremities of the side walls of the bulb. This stock is transparent, and is interiorly coated with mercury or other reflecting material indicated at 8, the stock itself being indicated at 7, as shown. The reflecting metal terminates short of the inner end of the stock, as illustrated, and formed in the outer surface of the stock, there are a pair of circumscribing grooves 9 and 10 respectively, the former being located adjacent to the outer end of the stock, while the latter is located approximately at the inner end of the coating of reflecting material. Engaged in each of these grooves, there is a filament supporting spider 11, consisting of a continuous piece of insulated wire bent upon itself at spaced points to form radially projecting arms 12. The arms of one of these spiders are located each at the angle formed by the union of two of the faces of the stock, while the arms of the opposite spider are located each midway between the edges of one of the faces of the stock, so that the arms of the two spiders are disposed in alternate relation. The connecting portions which extend between the arms 12 lie in the grooves 9 and 10, and the two portions A and B of the arms are twisted together as indicated at 14, to hold the connecting portion firmly in the slot.

Engaged tortuously with the outer ends of the arms there is a continuous filament C which has its ends carried to the inner end of the stock, where they are attached to two outwardly extending feed wires 15 and 16, which are engaged through the side of the stock inwardly of the metallic reflecting coating. One of these wires 15 is carried to the surface of the attaching plug 5, while the other is carried through a central contact member 18, as indicated. It will thus be seen that a structure is produced in which the supporting stock performs the double function of holding the two spiders in spaced relation, and of forming a reflector within the inclosure of the filament. By reason of the fact that the arms of one of the spiders are located at the angles of the faces of the stock, and the arms of the other spider are located centrally of these faces, the several lengths 17 of the filament C do not extend across the angles of the faces of the stock, but lie each opposite to one of the faces, so that a maximum of illumination is assured. By reason of the fact that the supporting spiders are engaged in grooves of the outer faces of the stock, there is no danger of contact between these spiders and the metallic reflecting coating within the stock, as would be the case were the spiders embedded in the glass of the stock.

In the modified form of the invention, shown in Fig. 6, the stock is provided with a web X at its outer end, through which there is passed a central feed wire Y, forming one connection for the filament, which is carried helically around the stock throughout the length thereof where it is connected with the opposite feed wire. In this form of the invention, the stock still performs the double function of holding the filament in proper position, while acting as a reflector. By reason of the fact that the wire Y passes centrally through the stock, there is of course no danger of its contact with the metallic reflecting coating. The helical filament is indicated at W.

What is claimed is:

An electric lamp, comprising a supporting stock, a reflecting member extending from the stock and having a plurality of flat reflecting faces, a bulb inclosing the reflector, supporting arms projecting from the angles of the intersection of the flat faces near one end of said faces, and a filament tortuously wound on the arms, the disposition of the arms being such that the various convolutions of the filament will lie across the flat reflecting faces to secure a maximum amount of reflection from the said faces.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN WILSON.

Witnesses:

MAURICE CANE,

DOUGLAS B. MCCORMAN.