

No. 703,791.

Patented July 1, 1902.

H. J. JAEGER.  
INCANDESCENT LAMP.  
(Application filed Aug. 13, 1901.)

(No Model.)

Fig. 1,

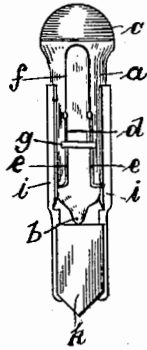


Fig. 2,

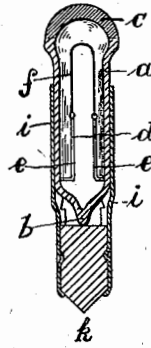


Fig. 3,

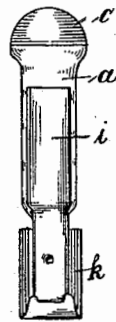


Fig. 4,



Fig. 5,



WITNESSES:  
*Harry Cross*  
*James J. Clontz*

INVENTOR  
*Herman J. Jaeger*  
BY  
*L. K. Dittmer*  
his ATTORNEY

# UNITED STATES PATENT OFFICE.

HERMAN J. JAEGER, OF NEW YORK, N. Y.

## INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 703,791, dated July 1, 1902.

Application filed August 13, 1901. Serial No. 71,884. (No model.)

To all whom it may concern:

Be it known that I, HERMAN J. JAEGER, a citizen of the United States of America, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Incandescent Lamps, of which the following is a specification.

My invention has reference to a novel construction of incandescent electric lamps, and pertains particularly to that type of incandescent lamps known to the art as "telephone-lamps," which are at present generally used in telephone-switchboards as the best form of annunciator.

The telephone-lamps heretofore employed are usually completely hidden in the wooden body of the switchboard, and a translucent button of larger diameter than the lamp-body secured to a circular slitted brass holder is commonly inserted in the front portion of the switchboard in front of the lamp-top for the purpose of scattering the light, so that the incandescent filament is not visible, protecting thereby the eyes of the operators from injury, which in the course of time get spoiled, owing to the fact that the lamps are lighted and extinguished practically every minute. This button adds a separate additional element to the outfit and makes same more expensive.

It is the object of my invention to provide a telephone-lamp which dispenses entirely with this button, saving thereby its cost and the labor of storing, handling, and mounting same. In order to accomplish this desirable result and still protect the eyes of the operators from injury, I have constructed a telephone-lamp in which a vacuum-chamber is provided having a translucent top blown thereon, forming part of same and being integral therewith.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the lamp embodying my invention. Fig. 2 is a central vertical section of same. Fig. 3 shows the lamp in side elevation without filament. Fig. 4 illustrates the lower portion of the vacuum-chamber with the side seal; and Fig. 5 represents in modification the top of the vacu-

um-chamber, the translucent portion being even with the walls of the latter.

Similar letters of reference denote like parts in all the figures.

In the drawings, *a* is the tubular vacuum-chamber, having the exhaust-tip *b* at its bottom end, and *c* represents the translucent top, which preferably is of half-globular shape, as shown in Figs. 1, 2, and 3. This translucent top is blown onto the vacuum-chamber of translucent glass of any desired color, preferably of so-called "milk-glass;" but sometimes it is made of red, blue, or green glass, &c. The lamps, with differently-colored translucent tops, may be mounted and arranged on the switchboard so that each color designates one section of the system or one small district. It is plainly understood from the above that the translucent top is integral with the vacuum-chamber by virtue of its manufacture and forms part of same. Its inner hollow surface is exhausted with the chamber and to the same degree.

As shown in Fig. 2, the translucent top is usually made thicker in glass than the walls of the tubular chamber in order to insure a perfect scattering of the light, so that the incandescent filament is not visible, protecting thus the eyes of the operators from injury. At and near the walls of the tubular chamber the translucent top is gradually decreasing in thickness. When mounted, it extends over the surface of the switchboard and is the only portion of the lamp which is visible to the operator.

The support *d* is formed of two wires *e e*, which carry the filament *f*. The support is strengthened by a bridge *g*. The lower ends of the wires *e e* are made of platinum wire where they pass through the side walls of the vacuum-chamber and form a so-called "side seal." Two terminals of metal *i i* are provided on the sides of the tubular vacuum-chamber. They are soldered to the outside ends of the wires *e e*, and tightened on the outside glass walls of the vacuum-chamber by a suitable cement, which adheres both to the glass and metal. This protects the soldering-point and lead-in wires from injury. The terminals *i i* extend below the glass body of the lamp and are kept separate there in any con-

venient manner by any suitable insulating-block *k*.

The filament in this lamp is of the small low voltage and amperage required by this kind of lamps.

Fig. 4 shows in detail the side seal. As is seen from this figure, the wires pass through the side walls of the tubular glass chamber. The points where the wires pass through the glass walls are determined by the length of the filament and its wire support. Sometimes they are passing through near the bottom of the lamp, sometimes a little higher up, as shown in Fig. 4, and in some instances they may pass through the side walls in or near the central portion of the tubular chamber.

A modification of the translucent top is illustrated in Fig. 5, wherein the translucent portion *c'* is made to be even with the side walls of the tubular chamber. This form of lamp is convenient when it is desired to mount the lamp in the switchboard, so that the top of it is even with the front surface of the board. In this way the lamp is completely protected from accidental breakage while in operation.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A telephone-lamp comprising a tubular glass vacuum-chamber, a thick half-globular translucent top joined thereto by the fusion of the glass and integral therewith.

2. A telephone-lamp comprising a tubular glass vacuum-chamber, a thick half-globular translucent top integral therewith and decreasing gradually in thickness from its top center toward the walls of the tubular chamber.

3. A telephone-lamp comprising a tubular glass vacuum-chamber, a thick half-globular translucent top joined thereto by the fusion of the glass and decreasing gradually in thickness from the top toward the walls of the tubular chamber, and a bottom vacuum-seal.

Signed at New York, N. Y., this 10th day of August, 1901.

HERMAN J. JAEGER.

Witnesses:

L. K. BÖHM,  
JAMES J. ASTARITO.