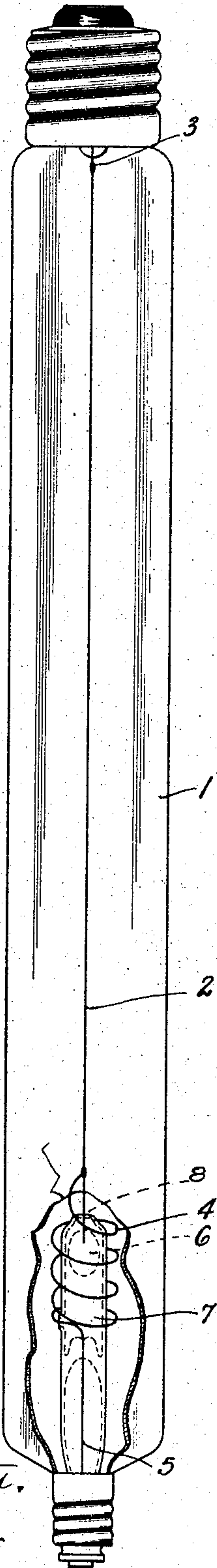


No. 781,016.

PATENTED JAN. 31, 1905.

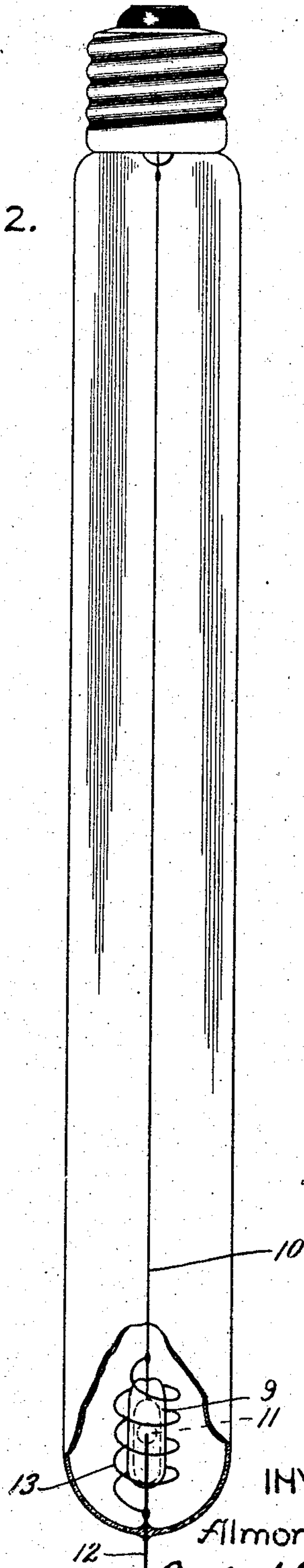
A. D. PAGE.
INCANDESCENT LAMP.
APPLICATION FILED MAR. 18, 1904.

Fig. 1.



WITNESSES:
George A. Thornton,
Helen Oxford

Fig 2.



INVENTOR:
Almon D. Page,
Atty.

UNITED STATES PATENT OFFICE.

ALMON D. PAGE, OF NEWARK, NEW JERSEY, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 781,016, dated January 31, 1905.

Application filed March 18, 1904. Serial No. 198,759.

To all whom it may concern:

Be it known that I, ALMON D. PAGE, a citizen of the United States, residing at Newark, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Incandescent Lamps, of which the following is a specification.

My present invention relates to incandescent lamps having straight filaments, and comprises certain improvements for taking up the slack of the filament as it expands or contracts during heating and cooling.

The features of novelty of my invention are pointed out with particularity in the appended claims. The invention itself, however, will be better understood by reference to the following description, taken in connection with the accompanying drawings, in which—

Figure 1 represents one embodiment of my invention, and Fig. 2 a modification.

In Fig. 1 the exhausted envelop of the lamp consists of a straight glass tube 1. In this tube is located a straight filament 2, of any suitable material, which filament is electrically connected to leading-in conductors located, respectively, at opposite ends of the tube. The upper end of the filament is connected directly, as shown, to the leading-in conductor 3, while the lower end of the filament is electrically connected, through the flexible coiled conductor 4, to the lower leading-in conductor 5. The respective leading-in conductors are connected to suitable terminals on the outside of the lamp.

The lamp illustrated is intended to be used in a vertical position, and of this fact I take advantage to maintain the filament taut by securing to the lower end thereof a weight 6, which may consist of a glass ball. This glass ball is located within a small tube 7, the walls of which constitute a guide for the ball or weight and prevent the latter from being displaced. The upper end of the tube 7 is closed in, so as to confine the ball 6; but this turning in of the upper end is only partial, so that an opening 8 is left for the passage of the lower end of the filament 2.

Instead of locating the filament-tautening device within a guiding-tube I may reverse the arrangement, as shown in Fig. 2. In this case the tautening device or weight consists of a tube 9, the upper end of which is fastened to the lower end of the filament 10 and the lower portion of which loosely surrounds a glass ball or knob 11, carried by the upper end of the leading-in wire 12. The tube 9 and the ball 11 are so related as to permit a relative movement sufficient to compensate for expansion and contraction of the filament 10. A flexible current-carrying conductor 13 electrically connects the filament and leading-in conductor 12.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of a tube or container, a filament supported at one end from the tube, a weight attached to the opposite end of the filament and serving to apply a uniform tension to the filament, and a guide surrounding said weight.

2. The combination of a tube or container, a filament supported at one end from the tube, and a weight attached to the opposite end of the filament and serving to apply a uniform tension to the filament, and a guide for said weight.

3. In an incandescent lamp, the combination of a tube or container, a filament supported at one end from the tube or container, a weight at the opposite end of the filament, and a flexible electrical connection extending from the last-mentioned end of the filament and electrically connecting with a terminal external to the lamp.

In witness whereof I have hereunto set my hand this 15th day of March, 1904.

ALMON D. PAGE.

Witnesses:

S. N. WHITEHEAD,
JOHN E. MITCHELL, Jr.