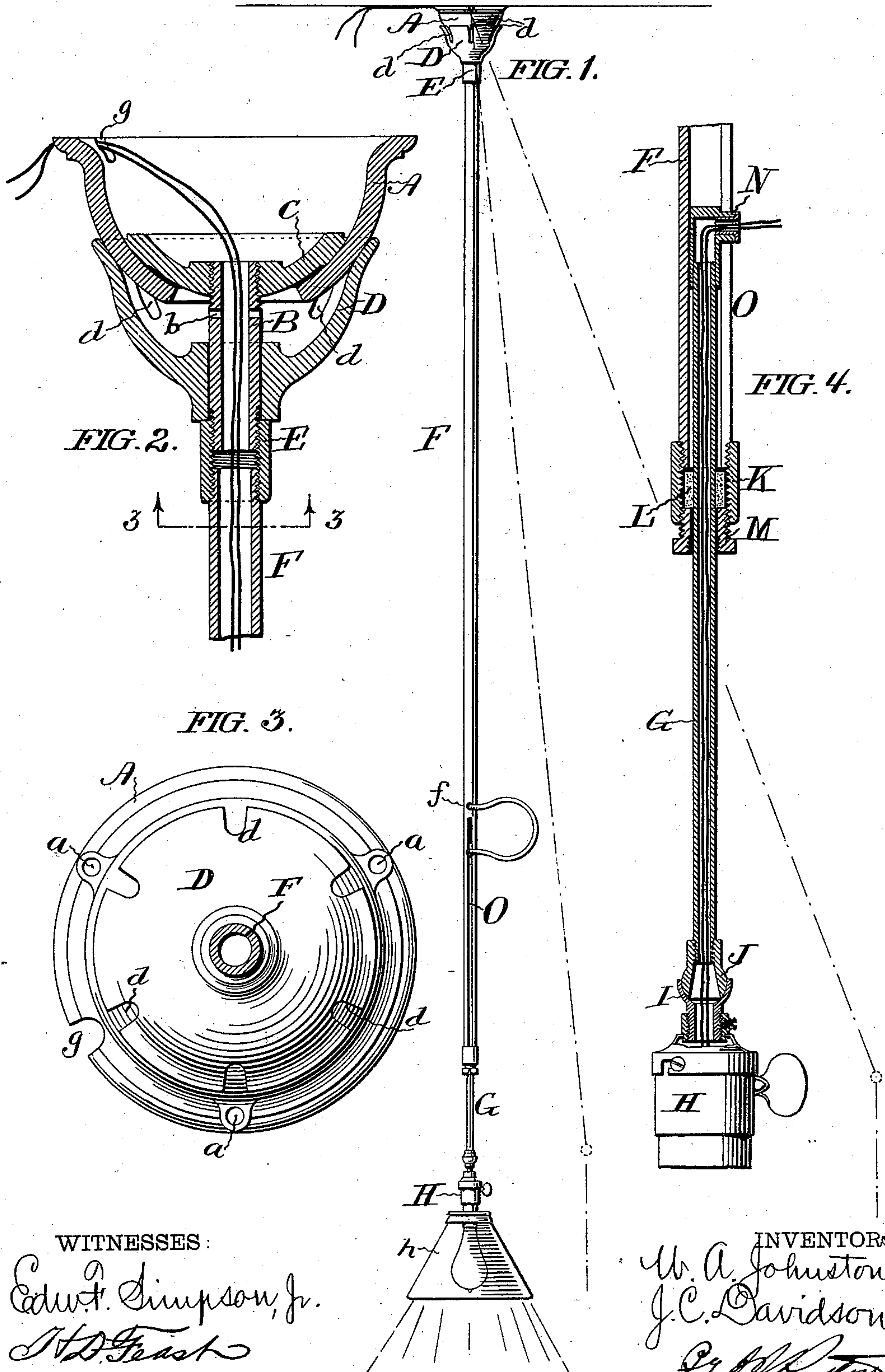


(No Model.)

W. A. JOHNSTON & J. C. DAVIDSON.  
PENDENT INCANDESCENT ELECTRIC LIGHT.

No. 504,475.

Patented Sept. 5, 1893.





# UNITED STATES PATENT OFFICE.

WILLIAM A. JOHNSTON AND JOHN C. DAVIDSON, OF PRINCE'S BAY, NEW YORK, ASSIGNORS TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## PENDENT INCANDESCENT ELECTRIC LIGHT.

SPECIFICATION forming part of Letters Patent No. 504,475, dated September 5, 1893.

Application filed April 28, 1893. Serial No. 472,217. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM A. JOHNSTON and JOHN C. DAVIDSON, both of Prince's Bay, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Pendent Incandescent Electric Lights, of which the following is a specification.

Our invention relates to improved means, as hereinafter claimed, for suspending incandescent electric lights in such manner as to admit of their being readily adjusted horizontally and vertically relatively to fixed supports.

In the accompanying drawings, Figure 1 is a view in elevation on a scale much smaller than that of the remaining figures. Fig. 2 is a central vertical section, the lamp and a portion of its suspending tube being omitted. Fig. 3 is a view with the lamp suspending tube in section on the line 3 of Fig. 2, the parts above the line of section being viewed from below. Fig. 4 is a view mainly in vertical central section, showing certain details of construction.

A support A, which is adapted to be fixed to a ceiling, bracket, &c., in suitable way, as by screws passing through the holes *a*, is made hollow and of approximately hemispherical form.

The upper section B of a lamp suspending tube has universally jointed frictional connection with the fixed support in the following way: A bearing piece C socketed within the fixed support is connected with the suspending tube section B. A socket D embracing the fixed support is carried by and adjustable on the tube section B the lower end of which is threaded and engaged by a threaded adjusting sleeve E which serves also as a coupling to connect the upper tube section with another section F of the lamp suspending tube. To adapt the socket D to be yieldingly clamped about the fixed support so as to offer frictional resistance to the movement of the socket about the support, the socket is provided with slots *d* thus dividing it into a number of yielding or springy arms extending from its edge or top inward or downward a suitable distance toward its center. From

the above description it will be seen that by adjusting the sleeve E the fixed support may be yieldingly clamped between its socket D and the bearing piece C. In adjusting the sleeve the tube section B may be held against turning by a suitable instrument inserted through one of the slots of the socket and engaging a hole *b* in the tube section. An additional or lower section G of the suspending tube is adapted to telescope within the intermediate section F of the tube, and the lamp socket H of an ordinary incandescent electric lamp, provided with a shade *h*, has universally jointed connection with the lower section of the suspending tube in order that in whatever position the lamp may be swung it will depend vertically from its suspending tube. This joint may be of any suitable ordinary construction. As shown in Fig. 4 it consists of the socket I and ball segment J.

In order to hold the lower section of the suspending tube in any position to which it may be adjusted by sliding it in the section F, this section F is provided with a stuffing box K containing cork, rubber, or other suitable compressible material L surrounding the lower section of the tube and acted upon by the gland M. It will be seen that by compression of the packing by adjustment of the gland there is created sufficient frictional resistance to the movement of the lower section of the tube to guard against its sliding accidentally in the tube section F. At its upper end the lower or sliding section G of the suspending tube is provided with a short lateral tubular guide or projection N which passes through a longitudinal slot O in the tube section F and serves to prevent turning of the sliding section independently of the section with which it connects. The wires conveying the current to and from the lamp pass through the lower section of the tube, out through the lateral extension at its upper end, where a loop is formed to provide a sufficient length of wire to admit of the elongation of the tube to its fullest extent by the downward movement of its lower section; then into the tube section F by way of opening *f* (which as well as the lateral tubular extension N may be bushed with some non-conducting mate-



rial) and by way of the tube sections F and B to the fixed support, through the opening *g* of which the wires pass to any suitable safety catch or fuse box.

5 It will be seen that the lamp may be swung into any required position (two positions beside the vertical are indicated by dotted lines Fig. 1), to direct the rays of light as desired; that it is held against accidental change of  
10 position by the frictional universal joint connection of the suspending tube with the fixed support, and that the lamp can be vertically adjusted by means of the telescoping sus-  
15 pending tube and be automatically held in the position of adjustment.

Our improvements may be modified in some respects without departing from the leading features of the invention; as by substituting  
20 a thin corrugated socket for the slotted socket D shown; or slotting or corrugating the bearing piece C instead of the socket D; and instead of locating the guide projection at the top of the sliding tube and passing the conducting wires by way of it through the slot in  
25 the tube section F, an equivalent projection may be provided and the wires pass out directly from the end of the sliding tube instead of by way of the projection as we prefer.

We claim as our invention—

30 1. The combination of the support adapted

to be fixed in position, the swinging suspending tube, the bearing piece within the support and connected with the suspending tube, the socket embracing the support, and carried by and adjustable on said tube, the ad- 35 justing sleeve on the suspending tube for yieldingly clamping the support between its socket and the bearing piece, the lamp carried by the suspending tube, and the conducting wires passing through the support 40 and tube, substantially as and for the purpose set forth.

2. The combination of the support, the suspending tube connected therewith and having the longitudinally slotted section, and the 45 section sliding therein, and provided with the guide projection working in the slot of the slotted section the lamp at the lower end of said sliding section, and the conducting wires passing through the support and tube sec- 50 tions and extending outside the tube by way of the slot in one of its sections, substantially as and for the purpose set forth.

In testimony whereof we have hereunto subscribed our names.

WILLIAM A. JOHNSTON.

JOHN C. DAVIDSON.

Witnesses:

SEYMOUR CASE,

IRVING W. DECKER.