No. 623,730. Patented Apr. 25, 1899.

W. J. McCUTCHEON.

ELECTRIC INCANDESCENT TUBE.

(Application filed Feb. 21, 1899.)

(No Model.)

Fig. 1

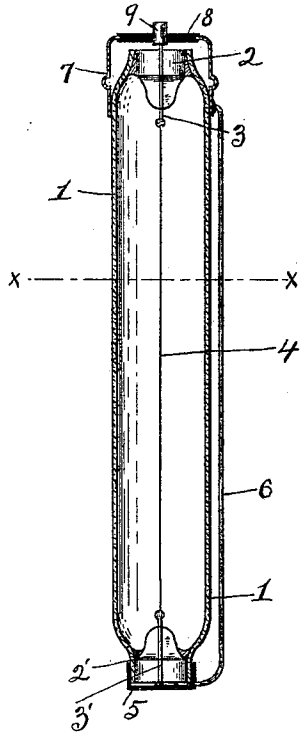


Fig. 3

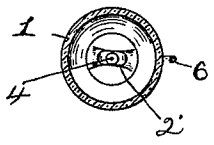


Fig. 4

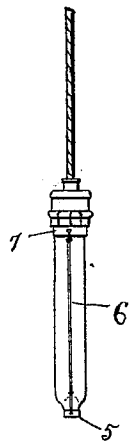
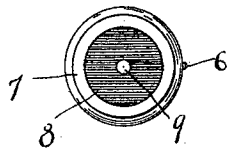


Fig. 2



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ELECTRIC INCANDESCENT TUBE.

SPECIFICATION forming part of Letters Patent No. 623,730, dated April 25, 1899.

Application filed February 21, 1899. Serial No. 706,386. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. McCUTCHEON, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric Incandescent Tubes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and novel improvements in incandescent lamps.

The invention has for its object the provision of a novel form of electric lamp designed to be used in connection, if preferred, with the ordinary form of socket, the principal object being its use for advertising purposes, the construction of the same making it possible to use it for forming letters and figures of various kinds.

With the above object in view the invention finally consists in the novel construction, combination, and arrangement of parts, as will be hereinafter more specifically described in detail.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference designate like parts throughout the several views.

Figure 1 is a vertical section view through the lamp, showing its interior construction. Fig. 2 is a plan view of the same. Fig. 3 is an end sectional elevation through the same on the line *x x* of Fig. 1. Fig. 4 is a reduced vertical elevation showing the lamp suspended from a socket.

Referring to the drawings, the numeral 1 designates a glass tube having plugs 2 and 2′ cemented or blown within its ends. Platinum wires 3 and 3′ or other metallic conductors whose expansion and contraction are equivalent to that of the glass plugs are embedded within the said plugs in the usual manner. Connected between the inner ends of these conductors is the filament 4, the resistance of which depends upon the candle-power to be given the lamp and the circuit upon which the same is to be employed. It is also understood that the air is exhausted from the interior of the tube previous to the final sealing of the same.

Attached to the base of the tube is the insulated cap 5, and within this cap and attached to the platinum conductor is the insulated conductor 6, which connects at its upper end with the metallic cap 7, said cap being of a construction as will connect with an ordinary socket. In this case the cap is provided with an insulated head 8, to which is secured a contact-pin 9, engaging with the end of the upper platinum conductor 3.

The lamp being constructed with a connecting end similar to those now in use, it will be readily understood that when inserted within a socket the current will pass through the lamp the same as heretofore, but the illuminating effect will somewhat differ. It is also apparent that the lamp may be placed in a horizontal, vertical, or angular position, as desired, according to the design of letters or figures to be represented by the same in advertising. Various colored tubes may also be employed. In this case the ends are somewhat of like nature; but the same may differ in detail construction without departing from the main construction of the same.

Referring to the insulated cap 5, I may use the same with like construction at either end of the lamp.

Having thus fully shown and set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An incandescent electric lamp comprising in combination a straight tubular glass body having its interior exhausted of air, and a filament arranged therein which connects at each end of the tube to a metallic conductor, a socket-cap arranged upon one end of said tube, which has arranged thereon an insulated pin adapted to connect one of the said filament-conductors, an insulated cap arranged upon the opposite end and an insulated wire conductor connecting the lower end of the filament to the upper cap, all arranged and combined substantially as shown and for the purpose set forth.

2. As a new article of manufacture an incandescent lamp comprising the vacuum-tube 1, plugs 2 and 2′ cemented within its ends the conductors 3 and 3′ within the said plugs the

filament 4, connecting said conductors within the vacuum-tube, the caps 5 and 7 at the ends of the said tube, the insulated conductor 6 connecting the lower end of the filament and the top caps, and the insulated pin 9 connecting the upper filament-conductor, all arranged and combined as shown.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM J. McCUTCHEON.

Witnesses:
HENRY F. WEAVER,
LOUIS G. MATTERN.