(No Model.)

J. STEWART.

INCANDESCENT LAMP.

No. 403,397. Patented May 14, 1889.

Fig. 1.

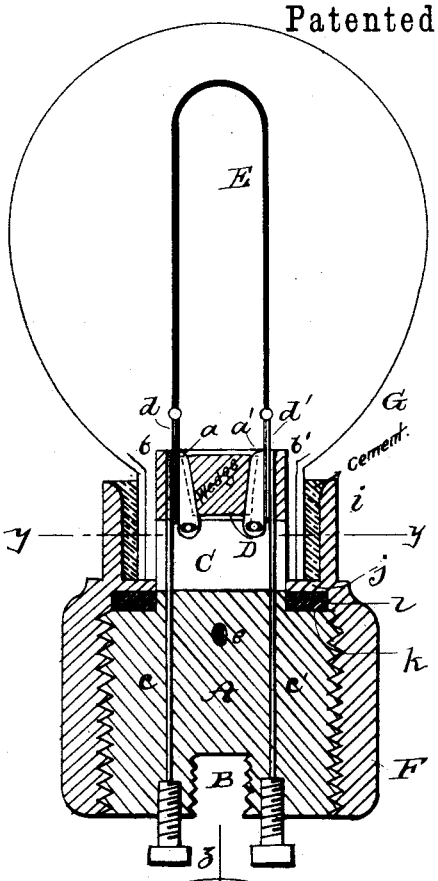


Fig. 2.

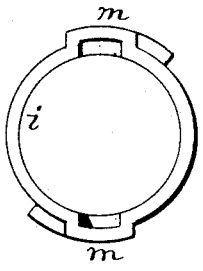


Fig. 4.

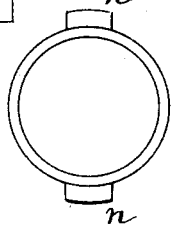


Fig. 7.

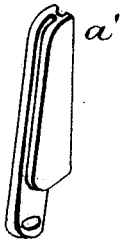


Fig. 5.

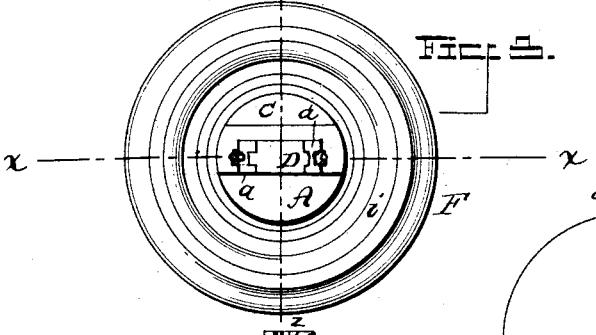


Fig. 6.

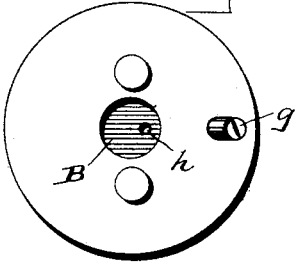
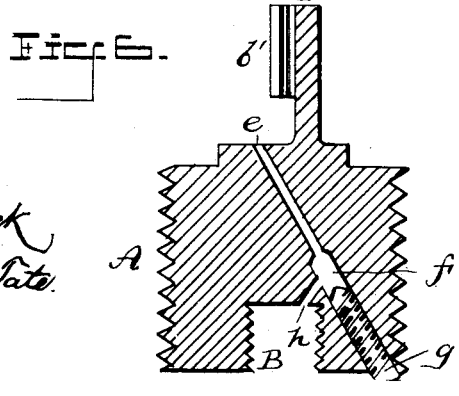


Fig. 6.



WITNESSES:
C. Sedgwick
Edgar Tate

INVENTOR:
J. Stewart
BY Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES STEWART, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO EDMUND C. STANTON, OF SAME PLACE.

INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 403,397, dated May 14, 1889.

Application filed August 4, 1888. Serial No. 281,959. (No model.)

To all whom it may concern.

Be it known that I, JAMES STEWART, of the city, county, and State of New York, have invented a new and Improved Incandescent Lamp, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical transverse section, on line *x x* of Fig. 3, of a lamp constructed according to my improvement. Fig. 2 is a horizontal section taken on line *y y* in Fig. 1. Fig. 3 is a plan view of the socket. Fig. 4 is a transverse section of the neck of the lamp, the section being taken on line *y y* of Fig. 1. Fig. 5 is an inverted plan view of the lamp-socket. Fig. 6 is a vertical transverse section of the lamp-base, taken on line *z z* in Fig. 1; and Fig. 7 is a perspective view of one of the wire-clamping jaws.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a lamp in which the carbon filaments may be removed and replaced without injury to the lamp globe or socket, thereby permitting of the renewal of worn-out lamps at a slight cost.

My invention consists in the combination, with the carbon filaments and wires attached thereto, of a clamping device for holding the said wires in contact with the conductors of the lamp-socket.

It also consists in a device for connecting the neck of the lamp with a lamp-socket.

It also further consists in an arrangement of air-passages and a valve in the base of the lamp, which will permit of exhausting and sealing the lamp.

The lamp-base A, which is preferably of insulating material, is provided with a central chamber, B, at the bottom thereof and is internally and externally threaded. The upper part of the base is provided with a recessed standard, C, in which are loosely pivoted two clamping-jaws, *a a'*, the said jaws being made wedge-shaped on their adjacent faces and grooved longitudinally to receive a thin flat wedge, D, which, when inserted between the clamping-jaws *a a'*, tends to press the jaws outwardly toward the ledges *b b'* of the standard C.

The wire conductors *c c'* of the lamp extend upwardly through the base-piece A and along the inner edges of the ledges *b b'* in position to contact with the wires *d d'* of the carbon filament E. In the base-piece A is formed an air-passage, *e*, having an enlarged part, *f*, which is internally threaded to receive the screw-valve *g*. Communication is established between the enlarged part *f* and the chamber B by a passage, *h*.

To the externally-threaded portion of the base-piece A is fitted a collar, F, provided with a socket, *i*, at the top thereof for receiving the neck of the glass lamp-globe G. The collar F is provided with an internal flange or fillet, *j*, between which and the shoulder *k* of the base-piece A is inserted a packing-ring, *l*. The socket *i* is provided with two L-shaped recesses, *m*, for receiving lugs *n*, formed on opposite sides of the neck of the globe G. The said lugs *n* are inserted in the recesses *m* and turned therein, after which the space between the socket *i* and the neck of the globe G is filled with some suitable cement.

The carbon filament E is held in place by the wires *d*, which are inserted between the jaws *a a'* and the ledges *b b'* of the standard C, and are held in electrical contact with the wires *c c'* by the outward pressure on the said jaws created by the insertion of the wedge D.

The lamp is exhausted by the application of an air-pump, which is connected with the base-piece A by a pipe screwed into the chamber B. When the exhaustion is complete, the valve is screwed down to the seat, thereby retaining the vacuum. When the carbon filament E is destroyed, it is replaced by another after the removal of the globe G in the manner already described.

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

1. In an incandescent electric lamp, the combination of the conductors *c c'*, the standard C, provided with the ledges *b b'*, the jaws *a a'*, and the wedge D, inserted between the jaws and adapted to clamp the wires *d d'* of the carbon filament in contact with the wires *c c'* of the lamp-base A, substantially as specified.

2. In an incandescent electric lamp, the solid base-piece A, having a passage, *e*, ex-

tending through it from end to end and enlarged and screw-threaded, as at *f*, a recess, B, in the bottom of the base-piece, a passage, *h*, leading from the upper end of the recess into the enlarged passage *f*, and the screw *g*, entering the passage *f* and adapted to close the passages *e* and *h*, substantially as set forth.

3. In an incandescent electric lamp, the combination, with the lamp-base, its movable wire-clamping jaws and their opposing fixed jaws or ledges, of a wedge for forcing both jaws toward said fixed jaws or ledges, whereby the two filament-supporting wires may be firmly clamped in their operative position, substantially as set forth.

4. The combination, with the lamp-globe G, provided with the lugs *n*, formed in the material of the globe, of the socket *i*, having right-angled recesses *m*, substantially as specified.

5. In an incandescent lamp, the combination of the chambered base-piece A, provided with the conductors *c c'*, and standard C, having ledges *b b'*, the pivoted jaws *a a'*, the wedge D, the wires *d d'*, and carbon filament E, connected with the said wires, the collar F, provided with the socket *i*, and the lamp-globe G, having its neck inserted in the socket *i*, substantially as specified.

JAMES STEWART.

Witnesses:
C. SEDGWICK,
E. M. CLARK.