(No Model.)

I. J. FLAGG.

COUPLING FOR ELECTRIC INCANDESCENT LAMPS.

No. 457,151. Patented Aug. 4, 1891.

Fig. 1.

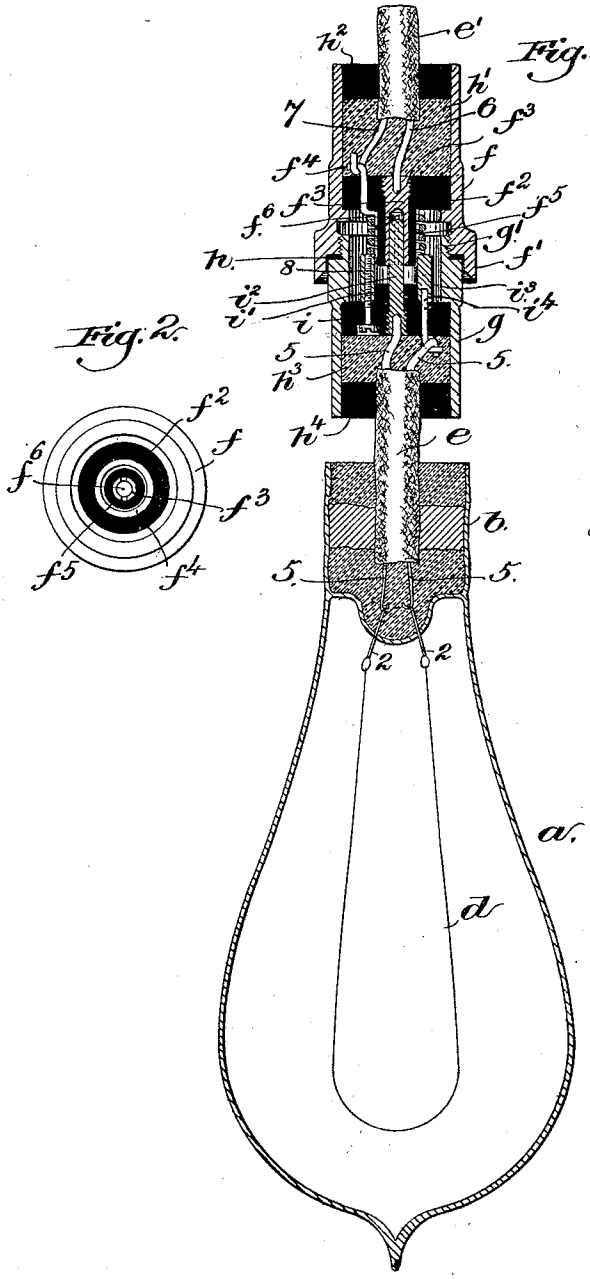
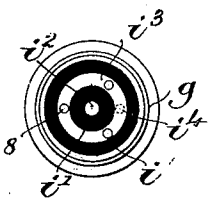


Fig. 2.

Fig. 3.



Witnesses.
Edward G. Allen.
Fred S. Greenleaf.

Inventor.
Isaac J. Flagg
by Crosby & Gregory Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ISAAC J. FLAGG, OF CLINTON, MASSACHUSETTS.

COUPLING FOR ELECTRIC INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 457,151, dated August 4, 1891.

Application filed March 13, 1891. Serial No. 384,862. (No model.)

To all whom it may concern:

Be it known that I, ISAAC J. FLAGG, of Clinton, county of Worcester, State of Massachusetts, have invented an Improvement in Couplings for Electric Incandescent Lamps, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In another application, Serial No. 365,207, filed by me September 17, 1890, an incandescent electric lamp is shown, its construction being such as to especially adapt it for use in dye-houses, bleacheries, and other damp places. As the lamps frequently break and have to be renewed, it is necessary to provide a suitable electric coupling or connection by which they may be connected with the circuit, which electric coupling or connection shall be water and moisture proof as well as steam-tight; and it is the object of my invention to construct such a water and moisture proof steam-tight electric coupling, connection, or holder for an incandescent electric lamp.

In accordance with this invention the electric coupling comprises two tubular halves or portions adapted to be screwed or otherwise connected together. One half or portion may be stationary and is connected to the circuit-wires, and the other half or portion, which is detachable, is connected with the wires leading to the lamp, so that when it is desired to renew a lamp this detachable half or portion may be removed and another like half or portion having connected with it a new lamp substituted therefor.

Figure 1 shows in vertical section an electric coupling, connection, or holder embodying this invention, with an electric lamp connected with one member thereof; Fig. 2, an end view of the stationary half or member, and Fig. 3 an end view of the removable half or member.

The lamp *a*, the socket *b*, and filament *d*, connected with the wires 2 2 5 5, and the wrapper or covering *e* are all as in said application before referred to.

The electric coupling comprises two halves or portions *f g*, one of which, as *g*, has a screw-threaded portion *g'*, which enters an internally-screw-threaded end of the other portion *f*, which latter portion has an annular flange *f'*, which overlaps the adjacent end of the portion *g*. A metallic or other packing ring *h* is placed between the abutting ends of the halves or portions *f g*, by which the coupling is rendered steam and water tight. The portion *f* is or may be stationary—as fixed to a wall, for instance—and placed within it is a rubber or other insulating-block f^2, having a central projection f^5 upon one side of said block, giving bearing or support for a tubular or socketed piece f^3 of conducting material, which passes through it centrally from end to end, and also a wire f^4, which also passes through it, said wire at that end of the block f^2 adjacent to the removable half or portion *g* coiling around the said central projection f^5, through which the piece f^3 passes.

The piece f^3 serves as an electric conductor, and one of the circuit-wires, as 6, is connected with it—as, for instance, by entering its socketed end—and the wire f^4 also serves as an electric conductor, the circuit-wire, as 7, being connected with it. The circuit-wires 6 7 are enveloped in a suitable wrapping or covering—such as *e'*, for instance—which extends down onto the half or portion *f*, and the said half or portion is nearly filled with insulating water-proof and moisture-proof material, as represented at *h'*, and a plug h^2, of rubber or other insulating material, is fitted into the end of said half or portion, which prevents any of the insulating material *h'* from oozing out when melted by any cause. At that end of the half or portion *f* which is connected with the half or portion *g* the conducting-piece f^3, having a socket f^6 and the coiled wire f^4, are exposed, and being insulated one from the other, serve as terminals with which electric connection can be made. The half or portion *g* contains a block *i* of insulating material, having a central projection *i'*, said block serving as a bearing or support for a centrally-arranged conducting piece or pin i^2, which passes through the block and is adapted to enter the socket f^6 in the contact-piece f^3 of the other half or portion, and also serving as a support for an annular projection i^3, arranged concentric to the pin i^2 and secured to said block by pins

8 or otherwise, as desired. The wire i^4 is connected to said annular projection i^3 and passes through said block i. The wires 5 5, leading to the incandescent electric lamp, are connected one to the conducting piece or pin i^2 and the other to the wire i^4, and are embedded in suitable insulating water and moisture proof material h^3 within the half or portion g next the said block i, which material is held in place by a plug h^4 of rubber or equivalent material. This plug prevents the material h^3 from oozing out when melted, like the plug h^2. When the half or portion g is screwed into the half or portion f, the pin i^2 will enter the socket f^6 in the conducting-piece f^3, and the annular projection i^3 will bear against the coil of wire f^4, which latter serves, also, as a spring, and by contact of these members the electric connection is established.

It will be seen that the half or portion g can be removed readily from the half or portion f.

It will also be seen that all electric connections and conductors are insulated from the shells f g, so that there is no opportunity for any one to receive a shock by taking hold of the said shells.

I claim—

1. The electric coupling or connection herein described for incandescent electric lamps, consisting of two halves or portions adapted to be connected together and each containing two electric conductors adapted to be joined to form two paths for the current from end to end of the coupling, and insulating water and moisture proof material in which said conductors are embedded, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors, substantially as described.

2. The electric coupling or connection herein described for incandescent lamps, consisting of two halves or portions adapted to be connected together, one of which comprises the tubular shell, a block of insulating material within it, two electric conductors passing through said block and to which the circuit-wires are connected, and the other of which comprises a tubular shell, a block of insulating material within it and two electric conductors passing through said block, the said conductors of which form, when connected together, two paths for the current from end to end of the coupling, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors, substantially as described.

3. The electric coupling or connection herein described for electric lamps, consisting of two halves or portions adapted to be connected together, one half comprising a tubular shell having two electric conductors within it embedded in insulating material, one of which is yielding, and the other half of which has two electric conductors adapted to contact with the two electric conductors in the other half, and insulating material in which said conductors are embedded, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors.

4. The electric coupling or connection herein described for incandescent lamps, comprising the shells f and g, adapted to be joined together, the metallic or other packing ring h between their abutting ends, and two electric conductors in each shell, which when joined form two separate conductors from end to end of the coupling, and insulating water and moisture proof material contained in said shells, whereby the conductors are completely insulated from said shell, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors, substantially as described.

5. The electric coupling or connection herein described for incandescent lamps, one half or portion of which consists of a shell, as g, containing two conductors, a block of insulating material, as i, the insulating material h^3, and the plug h^4, also of insulating material, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors, substantially as described.

6. The electric coupling or connection for incandescent lamps, the shells f g, adapted to be joined together, two electric conductors in each shell, also adapted to be joined together, and insulating water and moisture proof material filling said shells and holding the conductors in place and completely insulated from the shells, and insulating-coverings for the conductors entering and leaving the coupling, which are in direct contact with the insulating water and moisture proof material in which the conductors are embedded, to thereby completely protect the conductors, substantially as described.

7. The electric coupling or connection consisting of two halves or portions adapted to be connected together and each containing two electric conductors adapted to be joined to form two paths for the current from end to end of the coupling, combined with a lamp a, socket b, filament d, wires 2 2 and 5 5, the latter passing through the socket b and entering one half of the coupling, and insulating water

and moisture proof material contained in said half-coupling and also in the socket *b*, and a wrapper for the wires 5 5 in direct contact with the insulating water and moisture proof material in both the half-coupling and socket, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISAAC J. FLAGG.

Witnesses:
H. B. KIMEAR,
C. M. DINSMORE.