

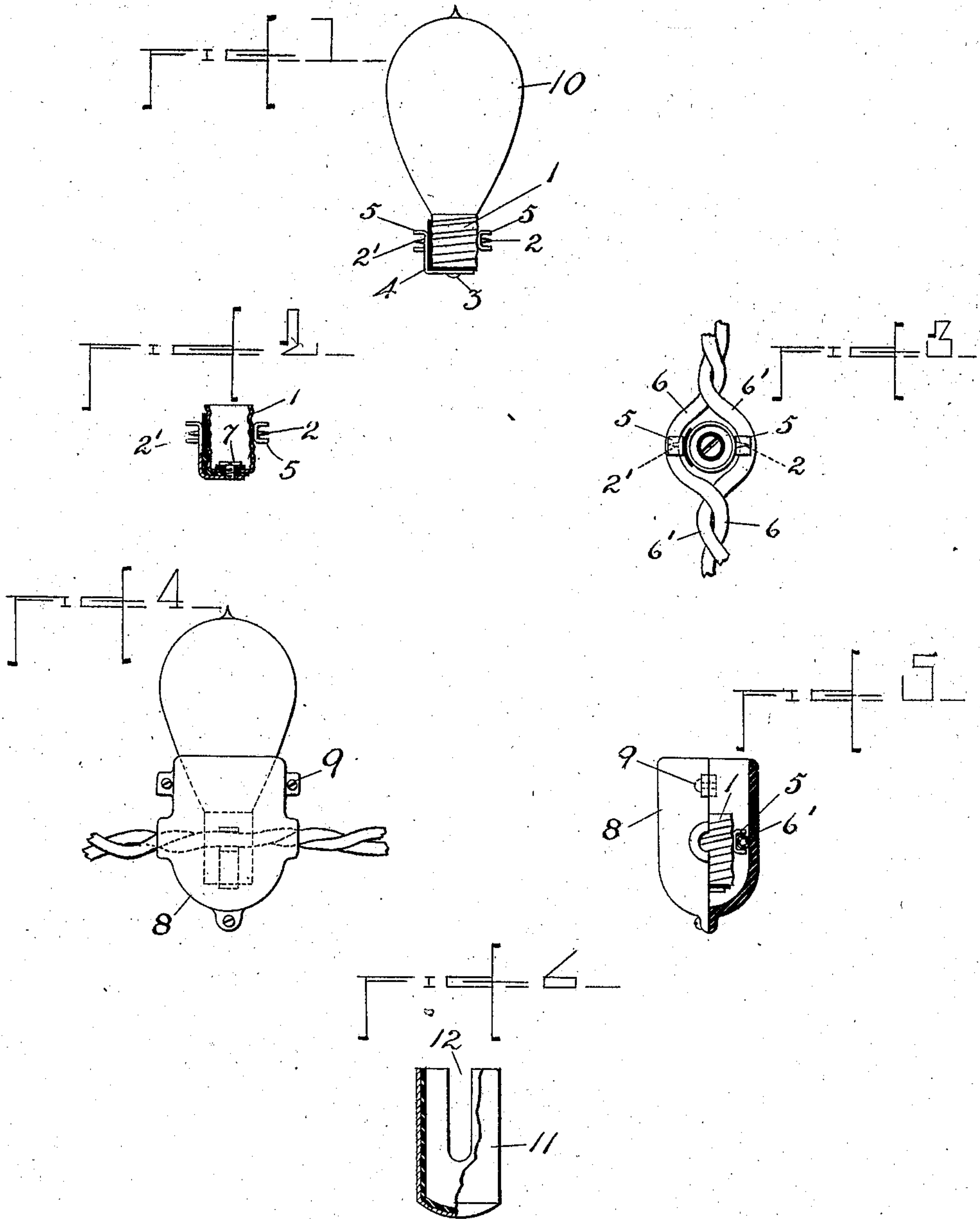
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E. A. LOWE.

ELECTRICAL CONNECTOR FOR ELECTRIC LAMPS.

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WITNESSES:

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ERNEST A. LOWE, OF NORTH PLAINFIELD, NEW JERSEY.

ELECTRICAL CONNECTOR FOR ELECTRIC LAMPS.

No. 815,605.

Specification of Letters Patent.

Patented March 20, 1906.

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To all whom it may concern:

Be it known that I, ERNEST A. LOWE, a citizen of the United States, and a resident of North Plainfield, in the county of Somerset and State of New Jersey, (whose post-office address is 183 Greenwich street, New York city,) have invented certain new and useful Improvements in Electrical Connectors for Electric Lamps, of which the following is a specification.

My invention relates to an improved device adapted for use in forming electrical connection between an electric lamp or other piece of electrical apparatus and a pair of electrical conductors forming opposite poles of a circuit and covered with the usual braided sheath or other insulating-cover.

The object of my invention is to provide a simple and inexpensive device adapted to form such connection by a pair of pointed contact-pins adapted to penetrate the insulation of the conductors and to come into contact with the conductor itself upon the application of suitable pressure to the point or to the conductor.

A further object is to so construct the device that the conductors may be held in secure engagement with the penetrating-points by simply twisting the two conductors together.

The invention consists substantially of a connector having a pair of penetrating-points forming its electrodes or terminals, said penetrating-points being properly mounted upon a common base or support and being arranged to project laterally outward from said support in opposite directions.

The invention consists, further, of an improved connector comprising a metallic shell forming a sleeve or socket and having mounted upon it a pair of penetrating-points which project laterally outward from said shell in opposite directions and one of which is suitably attached to the shell itself, while the other, insulated from said shell, has suitable electrical connection with a terminal pin or electrode mounted within the shell. The shell may constitute a sleeve surrounding the base of an incandescent electric lamp or other electric device or may constitute an electric socket adapted to receive a plug.

The invention consists, further, in the details of construction hereinafter described, and more particularly specified in the claims.

In the accompanying drawings, Figure 1 shows in side elevation an incandescent elec-

tric lamp equipped with my invention. Fig. 2 shows a socket constructed in accordance with my invention. Fig. 3 shows a plan of said socket as connected to a pair of insulated electric conductors. Fig. 4 is a side elevation showing the application of an insulating-sleeve to the connector. Fig. 5 is a partial vertical section through said sleeve, showing the manner in which it operates to compress the insulated conductor against the penetrating-point. Fig. 6 shows a modification in the form of the insulating-sleeve.

Referring to Fig. 1, an incandescent lamp 10 is shown having the usual metallic sleeve-terminal or shell 1, surrounding and mounted upon the base of the lamp. Projecting laterally from said sleeve is the contacting penetrating-point 2, which may be attached directly to said shell or sleeve in any desired manner and which is in electrical connection therewith. By pressing an electrical conductor with its sheath firmly upon said point the latter penetrates the sheath and comes into contact with the copper conductor, so as to form electrical connection between the same and the metal shell 1. Projecting in the opposite direction from said sleeve or shell, but insulated therefrom, is a similar point 2'. The latter is also mounted upon the shell 1, but insulated therefrom, as indicated. 3 is the central stud or terminal of the lamp-base, to which is attached the elbow-piece 4, carrying the point 2' and insulated, as shown. The terminal 3 is in electrical connection, as usual, with one of the leading-in wires of the lamp, while the shell 1 is electrically connected to the other leading-in wire. Each point 2 2' may be provided with the guides 5, which assist in centering the conductors on the points when applied to the connector.

Fig. 2 shows my invention as embodied in a socket adapted to receive the base of an incandescent lamp or a plug forming the terminal of flexible electrical conductors. 7 is the usual central stud or terminal of the socket which corresponds to the terminal 3 of Fig. 1, while 1 in Fig. 2 indicates the metallic shell forming the opposite terminal of the socket and having the projecting penetrating-point attached directly to it in the manner already described. The penetrating-point 2' is also mounted on the shell and is electrically connected with the terminal 7 of the socket, but is insulated from the shell, as shown.

In Fig. 3 the connector is shown as applied to a pair of insulated conductors. The penetrating-points pierce the insulation of said conductors when the latter are pressed upon the points with sufficient force and make connection with the conductors 6 and 6', thus establishing a circuit through any device which is in proper electrical connection at its terminals, respectively, with the shell on the one hand and with the terminal 3 or 7 on the other. By simply twisting the two conductors 6 6' together after they have been pressed firmly upon the points and as shown in Fig. 3 they will be held securely in position. Hence by my improved construction or disposition of the contact-points I provide a connector which may be safely and efficiently employed without the use of clamping-screws, clamping-blocks, or other special mechanical appliances for holding the conductors firmly against the points. As will be obvious, the connector is also firmly sustained by its oppositely-projecting points, the strain being in a direction transverse to the point, so that the latter does not tend to draw out.

The connector may be provided, as indicated in Figs. 4 and 5, with an insulating collar or sheath 8, which is adapted to compress the insulated conductors against the points. For this purpose the sleeve may be constructed in any desired manner, but preferably is made as a bisected sleeve the halves of which may be clamped together by clamp-screws or other devices, (indicated at 9.) The use of such insulating-sleeve is, however, optional. The same may be applied, obviously, to the connector where the same is a part of the lamp-base, as shown in Fig. 1, or where it is constructed as a socket, as shown in Fig. 2.

My invention provides a simple and cheap device adapted for use for decorative purposes when incandescent lamps are employed and it is desired to connect the same with insulated electrical conductors temporarily strung for such use. It is, however, also suitable for forming electrical connection between insulated conductors and a translating device of any character under conditions where the use is not a temporary one.

The form of compressing insulating-sleeve for the connector may be varied and the pressure thereof toward the laterally-projecting points may be a spring-pressure of the sleeve itself. Thus, for instance, as indicated in Fig. 6, said sleeve might be a metallic spring-cup 11, provided with an insulating-lining and with slots 12 extending axially from one edge thereof to receive the twisted conductors 6 6' when the sleeve is slipped over the end of the connector. After the said connector has been applied to the insulated conductors, as shown in Fig. 3, the spring-pressure of the sleeve is inward toward the slots 12, so that it will compress the conductors upon the points.

What I claim as my invention is—

1. An electrical connector comprising a metallic shell upon which is mounted a pair of penetrating contact-points, one projecting laterally outward from the body of the shell and in immediate union therewith, and the other being mounted on but insulated from said shell and projecting outwardly in the opposite direction.

2. An electrical connector for insulated electrical conductors comprising a conducting-shell carrying a pair of penetrating-points projecting outwardly therefrom in opposite directions, one of said points being mounted upon the side of the shell in electrical connection therewith, and the other being insulated from the shell, but in electrical connection with a conductor passing axially through the same.

3. An electrical connector for insulated electrical conductors, consisting of a metallic shell forming the sleeve-terminal of an incandescent electric lamp, and provided with two penetrating contacting-points, projecting laterally outward in opposite directions, one being directly attached to the side of the shell and in electrical union therewith, and the other insulated from the shell, but electrically connected with the opposite terminal of the lamp.

4. In a connector for insulated conductors, a metallic shell forming the sleeve-terminal of an incandescent electric lamp and having a pair of penetrating-points projecting outwardly from it in opposite directions, one being attached to the side of the shell and in electrical union therewith, and the other being insulated from the shell as and for the purpose described.

5. A means for forming electrical connection between a pair of insulated conductors and an electric lamp consisting of a metallic shell encircling the base of the lamp and provided with contacting penetrating-points projecting laterally in opposite directions outwardly from opposite sides of said shell, one of said points being insulated therefrom, and connections between said point and one of the terminals of the lamp.

6. A connector for insulated electric conductors, consisting of a metallic shell upon which are mounted two penetrating-points projecting from the sides of the shell outwardly in opposite directions.

7. An incandescent electric lamp having a base provided with a conducting-sleeve connected to one of the leading-in wires and furnished with a penetrating-point attached to the side of the sleeve in electrical union therewith and projecting laterally outward therefrom as and for the purpose described.

8. An incandescent electric lamp having a base provided with a metallic sleeve and a laterally-projecting penetrating-point directly attached to the outer side wall of said sleeve, and in electrical connection therewith.

9. In an electrical connector for insulated
conductors, a pair of penetrating-points pro-
jecting in opposite directions from a suitable
base, combined with an insulating-sleeve
5 adapted to press the conductors against said
points.

10. In an electrical connector for insulated
electric conductors, the combination with a
pair of penetrating-points projecting in oppo-
10 site directions from a suitable base, a bisect-

ed sleeve for said base and means for clamp-
ing said sleeve upon the base as and for the
purpose described.

Signed at New York, in the county of New
York and State of New York, this 18th day 15
of January, A. D. 1905.

ERNEST A. LOWE.

Witnesses:

C. T. TISCHNER, Jr.,
A. FRANKENTHALER.