

M. J. WOHL & H. HERTZBERG.

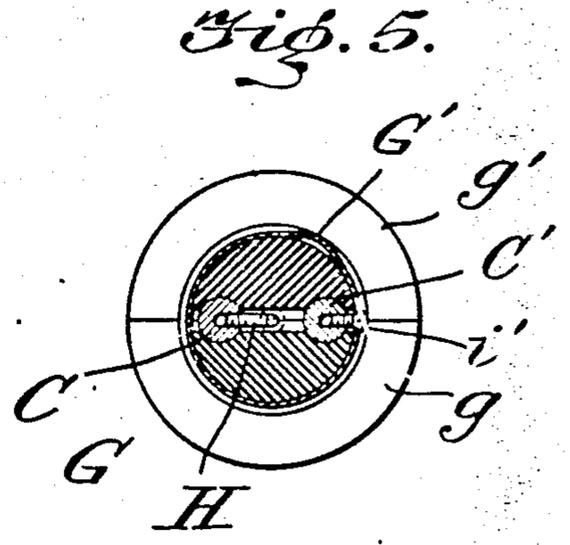
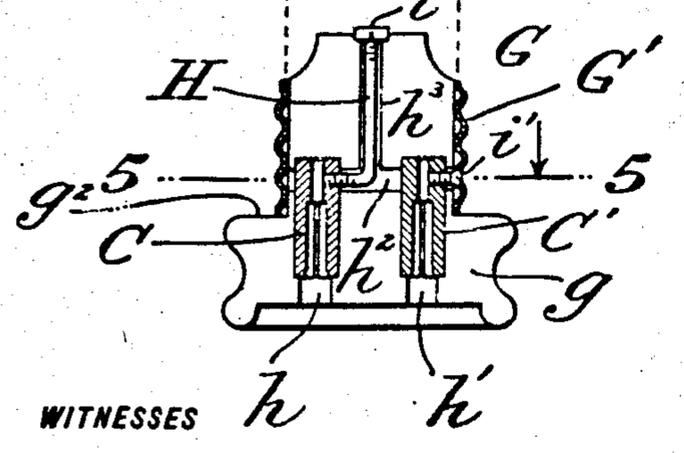
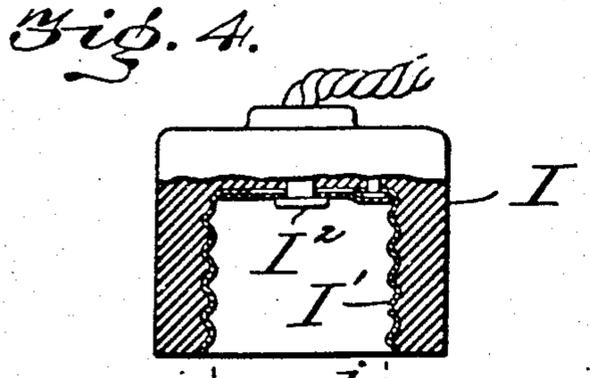
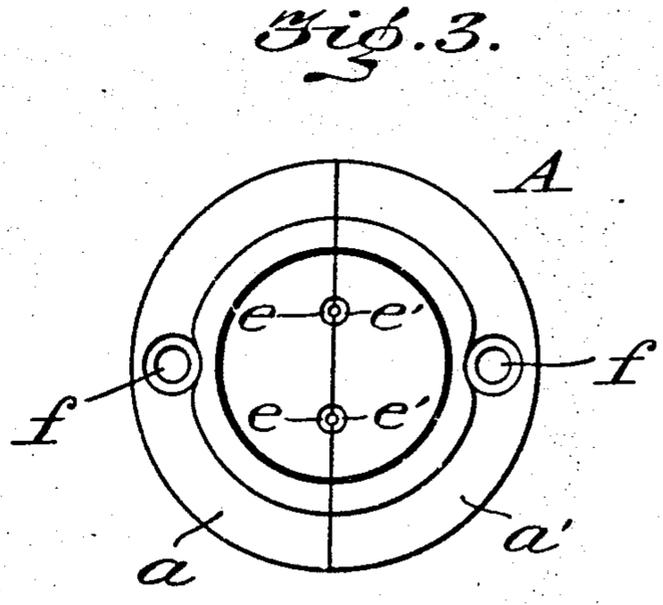
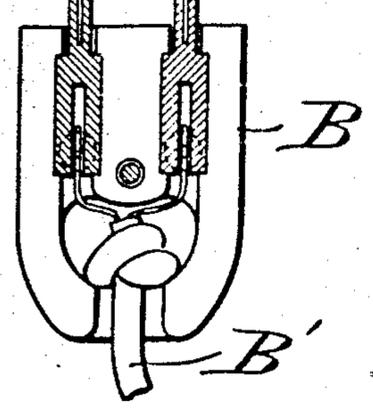
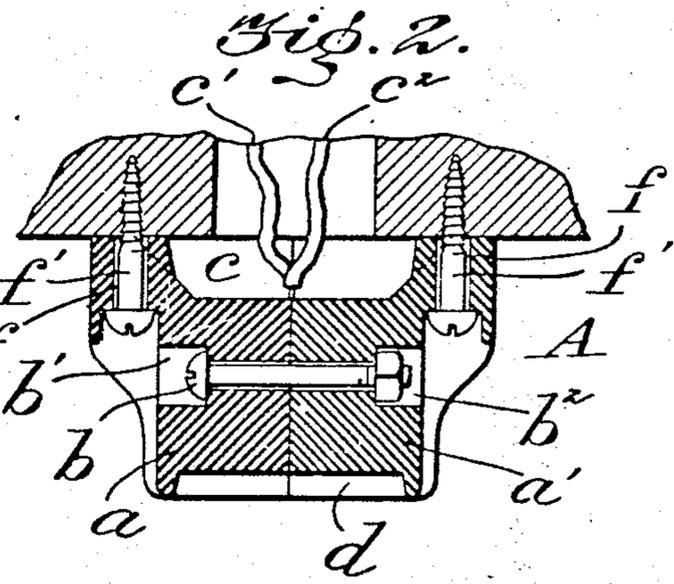
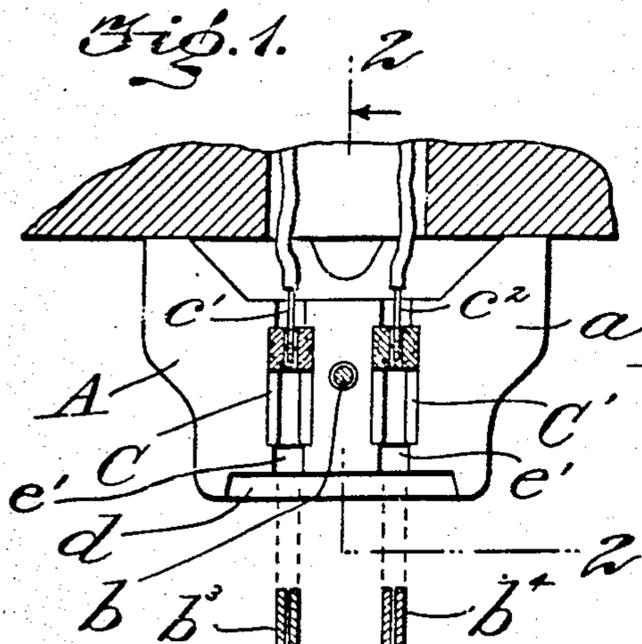
ELECTRICAL CONNECTION.

APPLICATION FILED NOV. 26, 1907.

962,071.

Patented June 21, 1910.

2 SHEETS—SHEET 1.



WITNESSES
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2 SHEETS—SHEET 2.

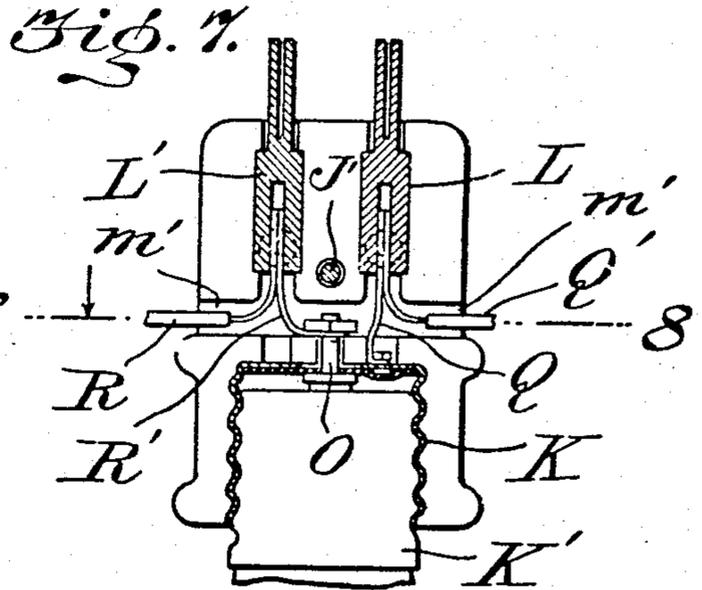
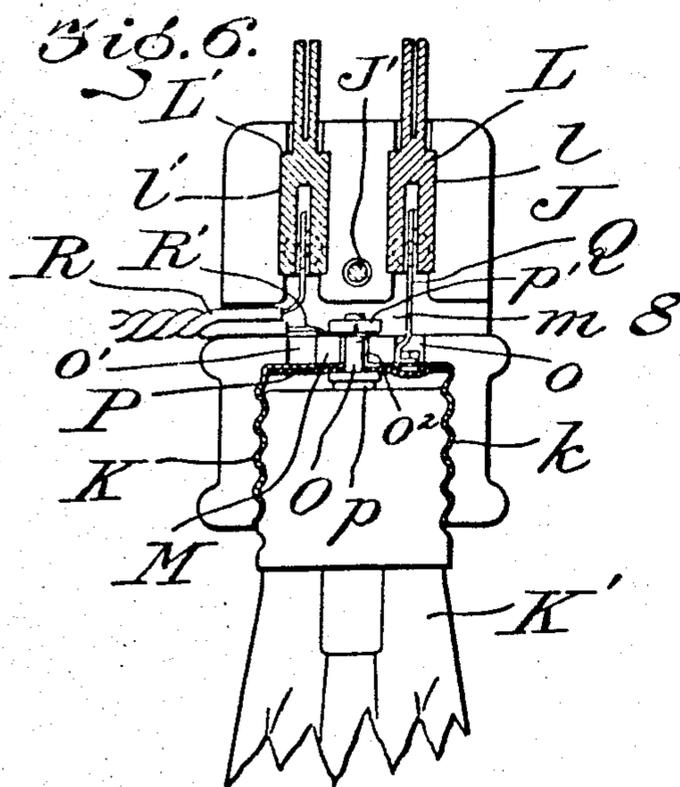


Fig. 8.

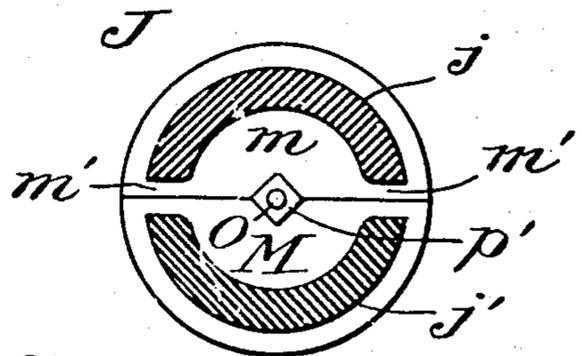


Fig. 9.

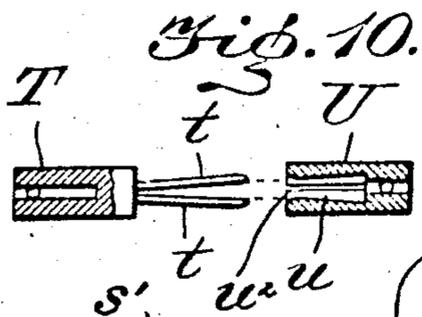


Fig. 10.

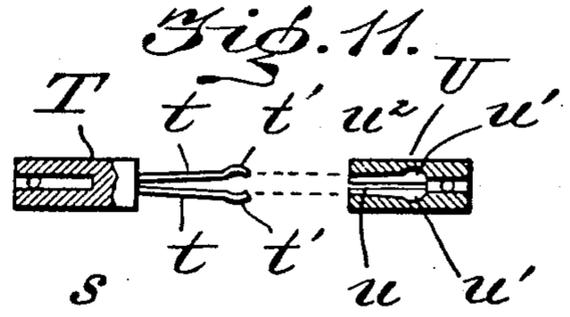
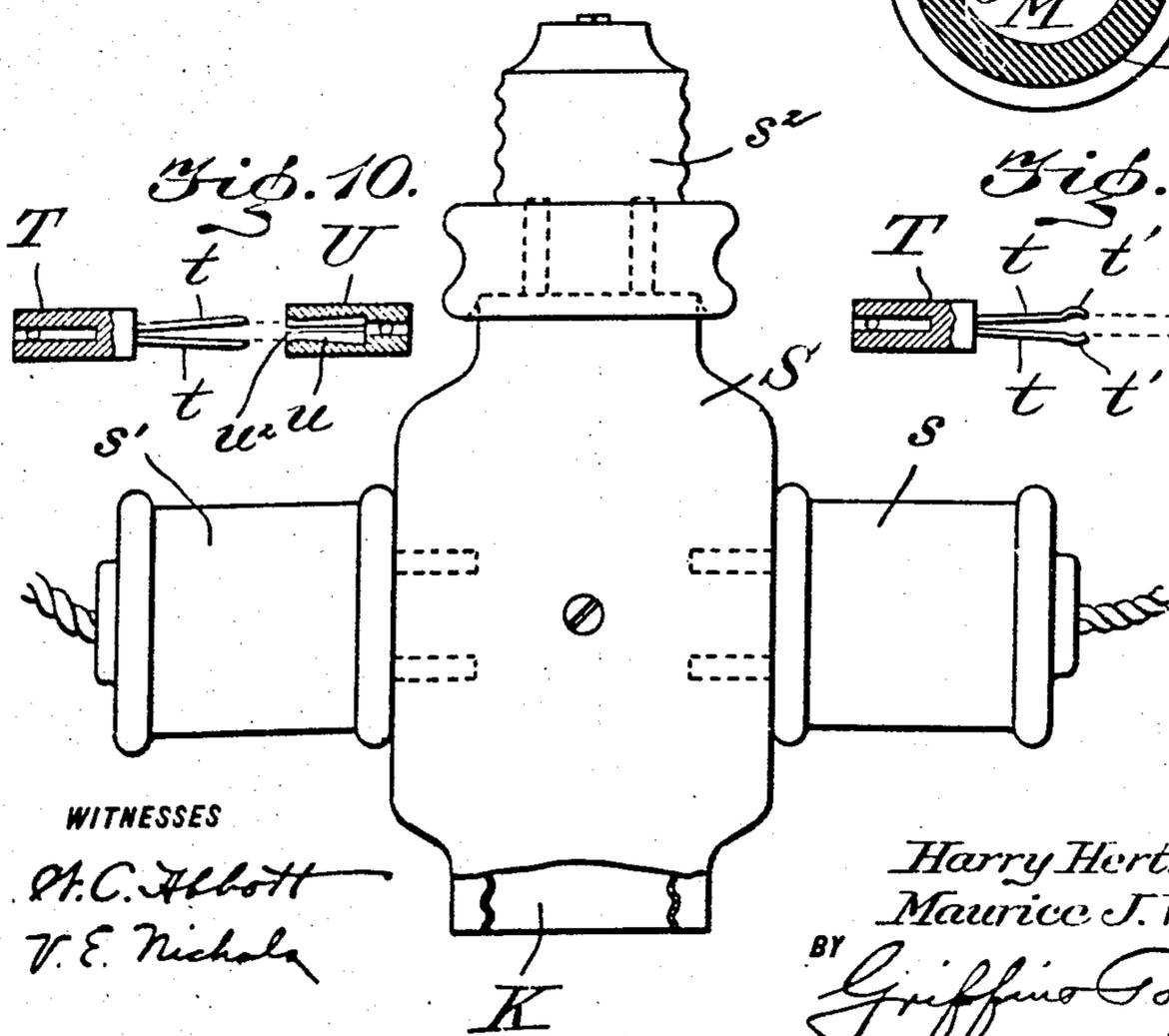


Fig. 11.



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UNITED STATES PATENT OFFICE.

MAURICE J. WOHL AND HARRY HERTZBERG, OF NEW YORK, N. Y., ASSIGNORS TO ECONOMY ELECTRIC COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

ELECTRICAL CONNECTION.

962,071.

Specification of Letters Patent. Patented June 21, 1910.

Application filed November 26, 1907. Serial No. 403,869.

To all whom it may concern:

Be it known that we, MAURICE J. WOHL and HARRY HERTZBERG, citizens of the United States, residing in the city of New York, boroughs of Manhattan and Brooklyn, counties of New York and Kings, respectively, and State of New York, have invented a certain new and useful Electrical Connection, of which the following is a specification.

This invention is an electrical connection for various purposes, such as coupling a translating device to a socket, a ceiling or molding block, a base, and for various other purposes.

The object in view is to produce a connection which is simple in construction, economical to manufacture, capable of easy assemblage, and efficient in operation.

The invention may be embodied in various forms of constructions, such as a socket, a plug, a combined socket and plug, a tap, a ceiling block or base, together with other kinds of devices.

In one practical embodiment of the invention we provide a tap wherein provision is made for connecting a translating device either in series or in parallel, said tap comprising complementary sections united by a bolt or its equivalent; said sections being provided with a wiring space or chamber, the latter being positioned intermediate a socket and certain terminal receiving chambers provided for the accommodation of either male posts or socket sleeves.

The invention may, also, be embodied in a plug comprising complementary sections united by a bolt, or its equivalent, said sections having socket sleeves clamped between them, together with a conductor united to one sleeve and forming a terminal, and a metallic connecting band in electrical engagement with another socket sleeve and said band forming the other terminal.

The invention further consists in certain novel constructions to be hereinafter fully described.

In the accompanying drawings, we have illustrated different practical embodiments of the invention, but the constructions shown therein are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is an elevation with parts in section through our invention embodied in the

form of a ceiling block and adapted for use in connection with a plug, one of the two separate parts being shown in elevation. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a plan view looking at the underside of the ceiling block shown in Figs. 1 and 2. Fig. 4 is a vertical section, partly in elevation, showing our invention embodied in a plug or tap, the part shown in elevation being one of the two parts of the plug or tap. Fig. 5 is a cross section on the line 5—5 of Fig. 4. Fig. 6 is a vertical section showing the invention embodied in a tap adapted to connect incandescent lamps in series, one of the two separable parts being shown in elevation. Fig. 7 is an elevation of one of the two separable parts composing the device shown in Fig. 6 with the parts in section and arranged for connecting incandescent lamps in parallel. Fig. 8 is a cross section on the line 8—8 of Fig. 7. Fig. 9 is a side elevation illustrating a connection with a plurality of plugs or taps extending from the various sides thereof. Fig. 10 is a section illustrating a pair of cooperating circuit terminals. Fig. 11 is a modification of the parts shown in Fig. 10.

Referring to the construction illustrated in Figs. 1, 2 and 3, A designates a ceiling block which is composed of porcelain or any other appropriate material. The block is divided vertically into complementary sections, *a*, *a'*, and these sections are united solidly together in matching relation by suitable means, such as the bolt, *b*, which passes through the sections and is housed therein. As shown in Fig. 2, the headed end of the bolt lies within a recess, *b'*, provided in one section as *a*, whereas the nut of the bolt is within a recess, *b²*, formed in the other section, *a'*, of the ceiling block. The ceiling block is provided in its base portion with a cavity or chamber, *c*, which is adapted to contain the conductors of an electric circuit. The other end of the ceiling block which is exposed to view is provided with a countersink or recess, *d*, into which is adapted to fit an end portion of a plug, B, said plug being shown in Fig. 1 as removed from the ceiling block, A, and in a position to enter the recess, *d*, therein. The members, *a*, *a'*, of the ceiling block are provided with recesses, *e*, *e'*, in the meeting faces of said sections. The recesses of one section are in a corresponding position to the recesses of the other section,

and when the sections are assembled, the recesses register so as to produce chambers adapted to receive circuit terminals. In Fig. 1, the circuit terminals are represented as socket sleeves, C, C', which are composed of metal and are split or divided for a part of their length. The socket sleeves are placed in the matching recesses, e, e', of the sectional ceiling block, and when the bolt, b, is tightened, the sections, a, a', are brought into frictional engagement with said socket sleeves, whereby the socket sleeves are clamped firmly in place within and between the sections of the ceiling block. The socket sleeves are adapted to receive the wires, c', c'', leading from an external working circuit. The open ends of the socket sleeves face toward the recess, d, in the exposed end of the ceiling block, and these sleeves are adapted to receive the split spring posts, b³, b⁴, which project from the plug, B. Said plug is constructed as disclosed in a prior application filed by us on August 23, 1907, Serial No. 389,771. The plug, B, is adapted to be placed in the recess, d, of the ceiling block, and the posts, b³, b⁴, enter the socket sleeves, C, C', whereby the plug is connected mechanically with the ceiling block, and the circuit is completed to a conductor, B', the latter being anchored in the plug. The construction of the ceiling block shown in Figs. 1, 2 and 3, may be employed for a wall fixture, or for a base or stand, but, as shown, the block, A, is provided with screw holes, f, one or more of said screw holes being in each section, a, a'. The block or member, A, may be placed against the wall or ceiling, or other surface, as in Figs. 1 and 2, and suitable screws, f', passed through the openings f, in order to secure the block or member firmly in position, said screws being housed within the plug or member and being thoroughly insulated thereby from the conductors of the circuit.

In Figs. 4 and 5, we have shown our invention embodied in a plug, G. Said plug is composed of porcelain or other insulating material, and it is divided longitudinally and centrally to produce the sections, g, g'. The sections are provided in their meeting faces with recesses, h, h', which are parallel to each other, a transverse recess, h², opening into the parallel recess, h', and another recess, h³, the latter communicating with the transverse recess, h², and being disposed about midway between the recesses, h, h'. The complementary sections, g, g', are placed with their recessed surfaces in engagement, and the several recesses of one section thus register with the corresponding recesses of the other section. The recesses, h, h', produce chambers which contain the circuit terminals, C, C', similar to the socket sleeves employed in the construction of Fig. 1, and these terminals are housed within the plug

and clamped in position by the sections of said plug. The sleeve, C, is attached rigidly to a conductor, H, which is in the form of a bent metallic stem, one end of which is fastened to the sleeve or terminal, C. The conductor, H, occupies the chamber formed by the matching recesses, h², h³, of the sections, g, g', whereby the conductor is adapted to extend centrally through a part of the plug, G. One end of the conductor is exposed at the end face of the plug, and at this point said conductor is furnished with a contact, i. The plug is reduced for a part of its length thus producing a shoulder, g², and on the reduced part of the plug is fitted a corrugated band or sleeve, G', which is held in place by a screw, i'. The conductor, H, and the sleeve, C, are in metallic contact, whereas the corrugated sleeve, G', and the socket sleeve, C', are in metallic contact through the screw, i'. The conductor, H, and the corrugated sleeve, G', form the exposed metallic contacts which are adapted to complete the circuit when the plug is inserted in a suitable socket, such as I. The socket, I, is shown as having an internal corrugated sleeve, I', and a contact, I². The corrugated band, G', of the plug is adapted to be screwed into the corrugated sleeve I', of the socket, I, thus bringing the contacts, G', I², into metallic engagement. When the plug is screwed home, the exposed end, i, of the conductor, H, engages the contact, I², so as to complete the other lead of the circuit. The sections, g, g', of the plug, G, are held together by the corrugated sleeve or band, G', but, if desired, a bolt, such as b shown in Figs. 1 and 2, may be employed in addition to the sleeve or band.

In Figs. 6, 7 and 8 of the drawings, we have illustrated our invention as embodied in a combined socket and tap which is adapted to be wired for connecting a lamp, or other translating device, in either series or parallel. The tap, J, is composed of porcelain or other insulating material, and it is divided vertically so as to produce the complementary sections, j, j'. Each section is provided with a recess, k, two parallel recesses, l, l', and a space or chamber, m, from which chamber extend recesses, m'. When the sections, j, j', are assembled into matching relation, the several recesses meet or register, and said sections, j, j', are united securely by any suitable coupling means, such as the bolt, J'. The matching recesses, k, produce a chamber in the lower part of the tap, which chamber is adapted to receive the internally threaded metallic sleeve, K, adapted to form one terminal for the reception of an ordinary incandescent lamp, K', or other translating device. The matching recesses, l, l', produce chambers adapted for the reception of circuit terminals, L, L', which are preferably in the form

of spring posts, the divided ends of said posts protruding beyond that end portion of the tap opposite to the socket, *k*. The posts fit snugly in the recesses, *l*, *l'*, and they are clamped firmly in position by frictional engagement with the members, *j*, *j'*, when the latter are drawn together by the bolt, *J'*. The socket sleeve, *K*, is at one end of the tap, whereas the circuit terminals, *L*, *L'*, are at the opposite end of the tap, the chamber, *m*, being between said socket sleeve and the circuit terminals. This chamber is produced by the matching recesses, *m*, in the sections, and the parts, *m'*, of said recesses produce openings which extend through the respective sides of the tap, as shown in Figs. 6, 7 and 8. The chamber, *m*, and the chamber produced by the recesses, *k*, are separated by an intermediate wall, *M*, and in this wall are openings, *o*, *o'* and *o²*. The opening, *o²*, is occupied by a binding post, *O*, the lower headed end, *p*, of which is adapted to form one contact which is arranged for engagement with a corresponding contact of the lamp plug. The contact, *p*, formed by the head of the binding post is insulated from the closed end of the corrugated sleeve, *K*, by a layer, *P*, of insulating material, and the upper end of the binding post, *O*, is adapted to receive a nut, *p'*, by which one of the wires is adapted to be clamped into electrical engagement with said binding post. In the construction shown in Fig. 6, the tap is wired to connect the translating device, such as lamps, in series, and as shown therein, we employ a wire, *Q*, and other wires, *R*, *R'*. The wire, *Q*, is attached to the circuit terminal, *L*, and extends across the chamber, *m*, and through the hole, *o*, whereby the lower end of said wire is adapted to be connected electrically with the corrugated sleeve, *K*, thus completing the incoming lead to the lamp. The outgoing lead, *R'*, is attached electrically to the binding post, *O*, and this lead extends through one of the openings, *m'*, of the tap. Said lead is shown as being twisted with the return lead, *R*, which extends through said opening, *m'*, and is connected electrically with the other post, *L'*, whereby the two leads, *R*, *R'*, are adapted to extend through one opening and to be connected respectively with the post, *O*, and the terminal, *L'*, whereby a number of lamps may be connected in series.

The construction of Fig. 7 is similar to that of the device shown in Fig. 6, but the wiring is adapted to include the incandescent lamps in parallel. As shown in said Fig. 7, the conductor, *Q*, extends from the terminal, *L*, to the socket sleeve, *K*, of the tap; the conductor, *R*, extends through one of the openings, *m'*, and is attached to the other terminal, *L'*; the conductor, *R'*, is in electrical engagement with the terminal, *L'*, and the binding post, *O*, and another con-

ductor, *Q'*, extends from the terminal, *L*, to and through the opposite opening, *m'*, of the tap. It will thus be seen that the tap is adapted to be wired with conductors extending from the terminals, *L*, *L'*, to the terminals, *K*, *O*, respectively; that one lead, *R*, extends through one side of the tap and is connected with one terminal, *L'*, whereas the other lead, *Q'*, extends through the opposite side of the tap and is attached electrically to the other terminal, *L*.

In the construction of Fig. 9, we have illustrated a connection wherein a central body portion, *S*, is provided at one end with a socket, *K*, into which may be screwed an incandescent lamp. This connection, *S*, is adapted to receive the caps, *s*, *s'*, at its opposite sides, whereas the top portion of the connection may receive the plug, *s²*. These several parts are constructed with circuit terminals, as heretofore described, for the purpose of mechanically attaching them to the connection, and of including said terminals in multiple with proper contacts inside of the connection, *S*.

Fig. 11 of the drawings shows another form of the circuit terminals hereinbefore described as a split post and a socket sleeve. The post, *T*, is reduced at one end and it is split or divided longitudinally so as to produce the fingers, *t*, *t*. These fingers normally diverge, and near their ends the fingers are provided with the knobs, *t'*. The sleeve, *U*, is divided for a part of its length as at *u* so as to make the sleeve yieldable somewhat, and the inner ends of the socket are enlarged somewhat as at *u'*. The outer ends of the socket in the sleeve are flared as at *u²*, in order that the ends of the expanded fingers may be compressed slightly when the fingers are thrust into the socket of the sleeve, whereby the fingers, when fully inserted into the socket, are adapted to expand for the enlargements, *t'*, of said fingers to enter the enlargement, *u'*, of the sleeve, thus connecting the post, *T*, to the socket, *U*, in a manner which prevents the parts from pulling apart easily.

A modified construction is shown in Fig. 10, wherein the post, *T*, is split for its fingers to be normally expanded. The split sleeve is provided with a tapering socket, *u²*, the mouth of which is flared for the purpose of compressing the expanded fingers during the operation of inserting said fingers into the sleeve.

Having thus fully described the invention, what we claim as new, and desire to secure by Letters Patent is:

1. In an electrical connection, a combined socket and tap comprising a body portion divided lengthwise and producing complementary sections, each section being provided in one end portion with a plurality of parallel recesses, an enlarged recess in the other

end portion, a chamber intermediate the
 aforesaid recesses, and radial recesses open-
 ing into said chamber, whereby the sections
 when matched bring the several recesses and
 5 the chamber of one member into register
 with the corresponding parts of the other
 section, combined with means for separably
 clamping the sections, circuit terminals
 clamped in the parallel sockets at one end
 10 portion of the body portion, a sleeve within
 the enlarged recesses at the other end of the
 and a contact on said post insulated from
 the intermediate chamber through the sleeve,
 and a contact on said post insulated from
 15 the sleeve, whereby the radial recesses of the
 body portion enable connecting wires to pass
 through the sides of said body portion and
 intermediate the ends thereof.

2. In an electrical connection, a combined
 20 socket and tap comprising a body portion
 divided lengthwise and producing comple-
 mental sections, each section being provided
 in one end portion with a plurality of par-
 allel recesses, an enlarged recess in the other
 25 end portion, a chamber intermediate the
 aforesaid recesses, and radial recesses open-

ing into said chamber, whereby the sections
 when matched bring the several recesses and
 the chamber of one member into register
 with the corresponding parts of the other 30
 section, combined with means for separably
 clamping the sections, spring post circuit
 terminals clamped in the parallel sockets at
 one end portion of the body portion, a sleeve
 within the enlarged recesses at the other end 35
 of the body portion, a binding post extend-
 ing from the intermediate chamber through
 the sleeve, and a plurality of connecting
 wires, at least one of which leads through a
 lateral opening formed by the radial re- 40
 cesses, whereby the connecting wire may ex-
 tend through a side of the body portion and
 at a point intermediate the ends thereof.

In testimony whereof we have signed our
 names to this specification in the presence of 45
 two subscribing witnesses.

MAURICE J. WOHL.
 HARRY HERTZBERG.

Witnesses:

MARGARET C. POWELL,
 H. I. BERNHARD.