

No. 629,445.

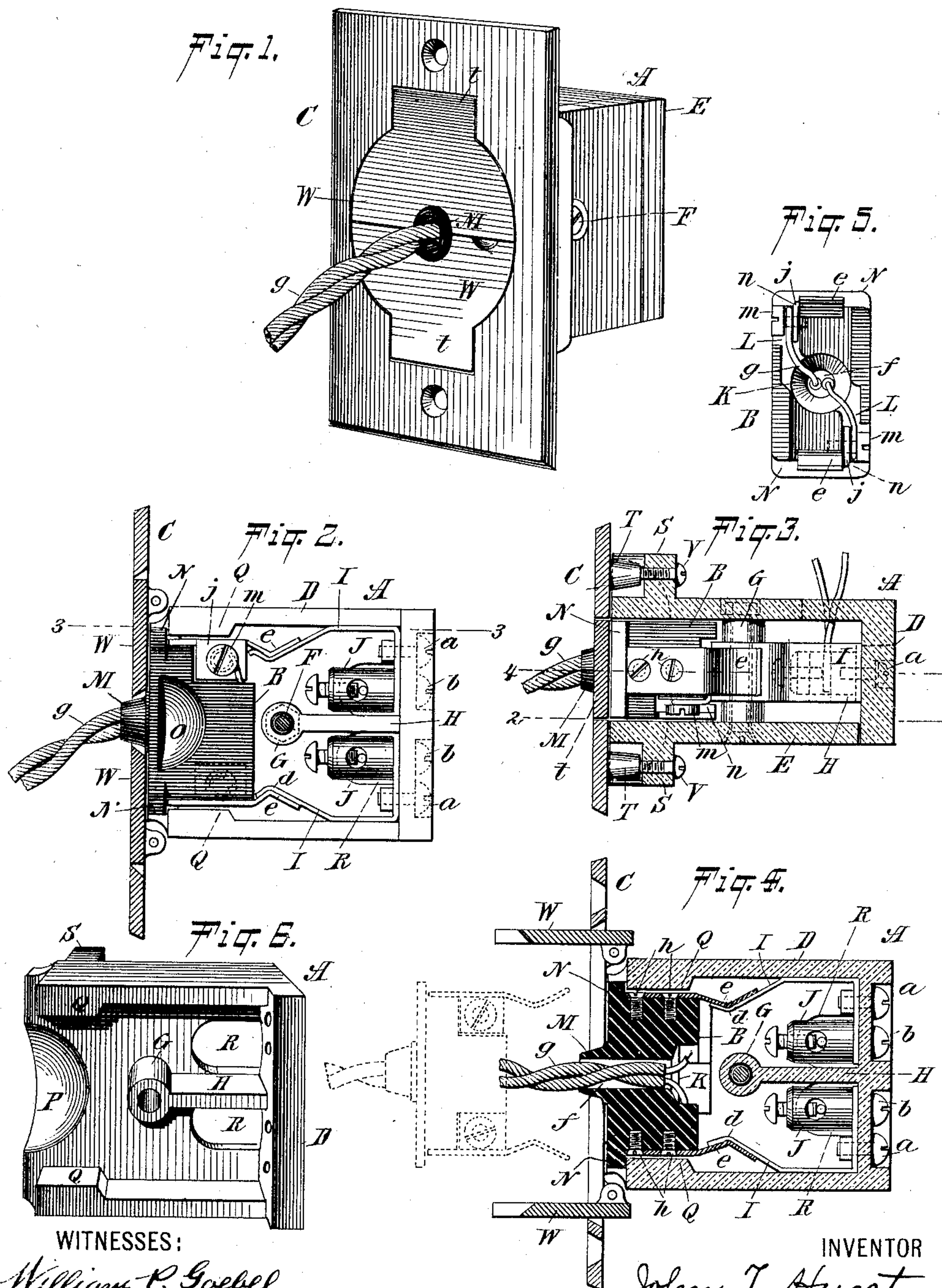
Patented July 25, 1899.

J. T. HUNT.

PLUG RECEPTACLE FOR ELECTRIC CIRCUITS.

(Application filed Aug. 12, 1898.)

(No Model.)



WITNESSES:

William P. Goebel,  
Frank E. Hipps

INVENTOR

John T. Hunt,

BY

Chas. C. Gill  
"ATTORNEY



# UNITED STATES PATENT OFFICE.

JOHN T. HUNT, OF NEW YORK, N. Y.

## PLUG-RECEPTACLE FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 629,445, dated July 25, 1899.

Application filed August 12, 1898. Serial No. 688,417. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. HUNT, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Plug-Receptacles for Electric Circuits, of which the following is a specification.

The invention relates to improvements in plug-receptacles for electric circuits; and it consists in the novel features and combinations hereinafter described, and particularly pointed out in the claims.

The invention is presented in this application as embodied in a receptacle of porcelain or other non-conducting material and having a face-plate secured thereto and provided with hinged doors, by which the mouth of the receptacle may be concealed or exposed at will. The receptacle removably receives the plug, to which the conducting-wires are connected and which is furnished on its front face with a short tubular projection, through which said wires extend and which passes slightly through an opening in said doors.

The receptacle is at all times flush with the surface of the floor or wall whether the plug is within or without the receptacle, and when the plug is within the receptacle the hinged doors effectually conceal the mouth of the receptacle and also said plug, with the exception of the edges of the tubular projection of the plug, through which the conducting-wires extend and which protect said wires from abrasive or other contact with the adjacent edges of the said doors.

The receptacle is subdivided at its inner end or base into two compartments by a partition of non-conducting material, and within these compartments are the posts for the main conductors and spring-contacts for electrical engagement with the spring-contacts carried by the plug. The receptacle has a removable side, which when removed fully exposes the interior of the receptacle and renders it convenient, therefore, to apply the posts and spring-contacts within said compartments. The partition of non-conducting material, which divides the interior of the receptacle into two compartments, forms a barrier between the parts of opposite polarity,

and thereby prevents all possibility of short circuits occurring.

The receptacle presents many points of novelty and utility, and these, with the invention as a whole, will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a plug-receptacle constructed in accordance with and embodying the invention. Fig. 2 is a side view, partly in section, of same, the removable side on the dotted line 2 2 of Fig. 3 being omitted and the outer face-plate being in central vertical section. Fig. 3 is a horizontal sectional view of same on the dotted line 3 3 of Fig. 2. Fig. 4 is a central vertical longitudinal section of same on the dotted line 4 4 of Fig. 3, the doors to the receptacle being illustrated in their open position and the dotted lines indicating the position of the plug when about to be inserted into the receptacle. Fig. 5 is a detached view of the inner end of the plug; and Fig. 6 is a perspective view of a portion of the plug-receptacle, the face-plate, removable side, and plug being omitted.

In the drawings, A designates a receptacle of porcelain or other non-conducting material; B, the plug, removably located within said receptacle, and C the outer face-plate, adapted to be fastened to said receptacle and also to the wall, floor, or other support to which the receptacle may be applied.

The receptacle A is of rectangular outline and is preferably formed in two parts, (lettered D E,) the part D forming the receptacle proper and the part E constituting the removable side therefor and which side is held in place by means of a screw F, which extends transversely through the receptacle from one side to the other thereof and through the enlarged upper end G of the transverse partition H, whose form and extent are clearly illustrated in Figs. 3 and 4. The partition H is formed integrally with the part D of the receptacle and divides the inner portion of the receptacle into two compartments.

Upon the inner end or base of the receptacle A is fastened, by means of the screws a b, the spring-contacts I I and posts J J, one



spring-contact I and one post J being at each side of the central partition H. The posts J J receive the ends of the main wires and are in electrical connection with the spring-con-  
 5 tacts I I, which are in the form of plates and extend outward along the inner walls of the receptacle A and then turn inward toward one another and terminate in the annular  
 10 extremities *d*, as illustrated in Fig. 4, to lock upon the corresponding angular extremities of the spring contact-plates *ee*, connected with and extending inward from the body of the plug B, as indicated in Fig. 4.

The plug B, of insulating material, is of  
 15 rectangular outline and adapted to closely fit within the mouth of the receptacle A, and said plug is provided with the central orifice *f*, through which the conducting-wires *g* may extend. The contact-plates *ee* are secured  
 20 to the body of the plug B by means of the screws *h*, as clearly illustrated in Figs. 3 and 4, and are provided with the inwardly-turned lugs *j*, through which pass the screws *m*, whose purpose is to receive and bind against  
 25 said lugs *j* the inner ends of the conducting-wires *g*, the inner ends of these wires being thus preserved in electrical connection with the spring-contacts *e*. The corners of the inner end of the plug B are cut away, as at  
 30 *n*, to receive the lugs *j* and screws *m*, in order that thereby said screws may set inward beyond the outer general surfaces of the said plug B and leave the latter free and clear to be inserted into the mouth of the receptacle  
 35 A, said mouth conforming in outline to the rectangular shape of the plug B and snugly receiving said plug. The inner face of the plug B contains the annular recess K, surrounding the end of the central orifice *f*, and  
 40 said inner face of the plug B has channels L formed in it, through which the inner ends of the conducting-wires *g* are carried from the lugs *j* to said annular recess K and orifice *f*. The outer end or face of the plug B has  
 45 the central tubular projection M, surrounding the outer end of the orifice *f*, and said outer end or face of the plug B is formed at its ends with the shoulders N, which when the plug is in position will contact with the  
 50 upper and lower outer edges of the receptacle A and form stops to prevent any undue inward movement of the plug. The opposite sides of the plug B are recessed, as at O, to form convenient gripping-surfaces for the  
 55 fingers during the insertion of the plug into and its withdrawal from the receptacle, and for the purpose of coöperating with said recesses O in rendering it convenient to insert and withdraw the plug B the opposite sides  
 60 of the receptacle A are formed with the bowl-shaped recesses P, which will admit the ends of the fingers between which the plug B is or is to be held.

The inner side walls of the receptacle A  
 65 present regular plain surfaces between which the sides of the plug B pass; but at the outer

portions of the upper and lower inner walls of the receptacle A are formed the shoulders  
 Q to contact with the upper and lower sur-  
 faces of the plug B and leave within the re-  
 70 ceptacle abundant space, within which the adjoining ends of the spring-contacts I I and *ee* may have their movement or spring action during the insertion and withdrawal of the  
 75 plug. When the plug B is within the receptacle A, the spring-contacts I I and *ee* remain under constant flexion toward one another, and hence a very effectual electrical connection between said contacts is maintained.

The receptacle A has upon one side the  
 80 openings R R, through which the main conducting-wires may be passed to the posts J J. The inner end or base of the receptacle is entirely open adjacent to and coincident with  
 85 said openings R, and hence every possible facility is afforded for wiring the receptacle by any of the known methods.

The outer portions of the vertical sides of the receptacle are formed with the shoulders  
 S S, which are set inward from the outer edges  
 90 of the receptacle a sufficient distance to afford spaces for the lugs T, cast on the face-plate C. The lugs T extend inward to the shoulders S and receive the screws V, by which said face-  
 95 plate C is fastened to the receptacle and which screws, as shown, are not exposed at the outer side of said face-plate.

The face-plate C is adapted to be secured to the floor or wall, as well as to the receptacle  
 A, and is formed with the substantially cir-  
 100 cular central opening to receive the substantially semicircular hinged doors W W, which close toward one another and are recessed at the central portion of their meeting edges to  
 105 close around the tubular portion M of the plug B. The doors W W are formed with the shank portions *t*, which turn inward when the doors are opened, as shown in Fig. 4, and which furnish the lugs through which the  
 110 pins for the hinges may pass. The outer edges of the upper and lower sides of the receptacle do not extend outward as far as the outer edges of the vertical sides of the recep-  
 115 tacle, and thus abundant space is afforded for the hinges of the doors W W and the face-plate is permitted to contact with opposite edges of the receptacle, while the shoulders  
 N of the plug B are permitted to contact with other opposite edges of said receptacle.

It is of great importance that the receptacle  
 120 A may be closed when the plug B is therein, as well as when the plug is not therein, and this is a consideration which is fully accomplished by the doors W W. The substan-  
 125 tially circular opening in the face-plate C renders it entirely convenient to insert and withdraw the plug B, since thereby abundant lateral space is afforded for the thumb and finger grasping the plug to enter the recesses O and  
 130 P of the plug and receptacle, respectively, and this lateral space afforded by the opening in said face-plate is closed by the doors



W W in a manner which does not detract in any sense from the neat and attractive finish of the article as a whole.

When in use, the plug B will be concealed within the receptacle A by means of the closed doors W W, and when in this position the spring-contacts *e e*, carried by the plug B, will be maintained in firm electrical contact with the spring-contacts I I, carried by the receptacle A.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The receptacle A having the removable side E and provided with the partition H and the openings R, R, to admit the main conducting-wires, the posts J and contacts within said receptacle and carried thereby, and the transverse screw F entering said partition and securing said side E, combined with the plug adapted to enter said receptacle and provided with the contacts adapted to engage the contacts within said receptacle, the conducting-wires *g* carried by said plug, and a face-plate to conceal said plug; substantially as set forth.

2. The receptacle of non-conducting material having at the opposite sides of its outer end the recesses P, and the posts and contacts within and carried by said receptacle, combined with the plug carrying the conductors and adapted to enter said receptacle and provided at its opposite sides with the recesses O in line with the aforesaid recesses P, and contacts carried by said plug for engagement with the contacts carried by said receptacle; substantially as set forth.

3. The receptacle of non-conducting material carrying the posts J and contacts I, and the plug adapted to enter said receptacle and carrying the contacts *e* and conducting-wires *g* and provided at opposite edges with the outwardly-projecting shoulders N for engagement with the opposite inwardly-set edges of said receptacle, combined with the face-plate secured to said receptacle and contacting with the outwardly-set edges of same at the sides of the outer end thereof not engaged by said shoulders N; substantially as set forth.

4. The receptacle of non-conducting material, and the posts and contacts carried thereby, said receptacle having adjacent to its outer end the shoulders S, combined with the plug carrying the contacts and adapted to enter said receptacle, the face-plate C having the lugs T extending inward toward said shoulders S to which they are secured, and the hinged doors W, W, for closing the said receptacle and concealing the plug therein; substantially as set forth.

5. In combination with the receptacle A of non-conducting material and having the posts

and contacts in electrical connection with the main wire conductors, the plug B adapted to be concealed within said receptacle and carrying the contacts and also the conductors *g* issuing therefrom at a definite point, and the face-plate for said receptacle and having the hinged concealing-doors whose meeting portions are recessed to accommodate said conductors *g*; substantially as set forth.

6. In combination with the receptacle A of non-conducting material and having the posts and contacts in electrical connection with the main wire conductors, the plug B adapted to be concealed within said receptacle and carrying the contacts and also the conductors *g* issuing through a centrally-projecting tubular portion M of said plug, and the face-plate secured to the outer edges of said receptacle and having the hinged doors whose meeting edges are recessed to close around said tubular portion M of said plug, said portion M serving to hold the conductors *g* together and preserve them from contact with said doors; substantially as set forth.

7. In combination with the receptacle A of non-conducting material and having the posts and contacts in electrical connection with the main wire conductors, the plug B adapted to be concealed within said receptacle and carrying the contacts and also the conductors *g* issuing therefrom at a definite point, and the face-plate for said receptacle and having the hinged concealing-doors whose meeting portions are recessed to accommodate said conductors *g*, said doors being substantially semicircular in outline and having the shank ends *t* to which the hinges are applied and which when said doors are opened are on lines outward beyond the adjacent sides of said receptacle; substantially as set forth.

8. In combination with the receptacle A of non-conducting material and having the posts and contacts in electrical connection with the main wire conductors, the plug B adapted to be concealed within said receptacle and carrying the contacts and also the conductors *g* issuing therefrom at a definite point, and the face-plate for said receptacle and having the substantially circular opening and provided with the substantially semicircular hinged doors therefor, said doors at their meeting edges being recessed to accommodate said conductors *g*; substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 9th day of August, A. D. 1898.

JOHN T. HUNT.

Witnesses:

CHAS. C. GILL,  
T. E. HIPPLE.