No. 714,022. Patented Nov. 18, 1902.

M. NORDEN.

ELECTRIC LAMP SOCKET.

(Application filed June 5, 1902.)

(No Model.)

Fig. 1.

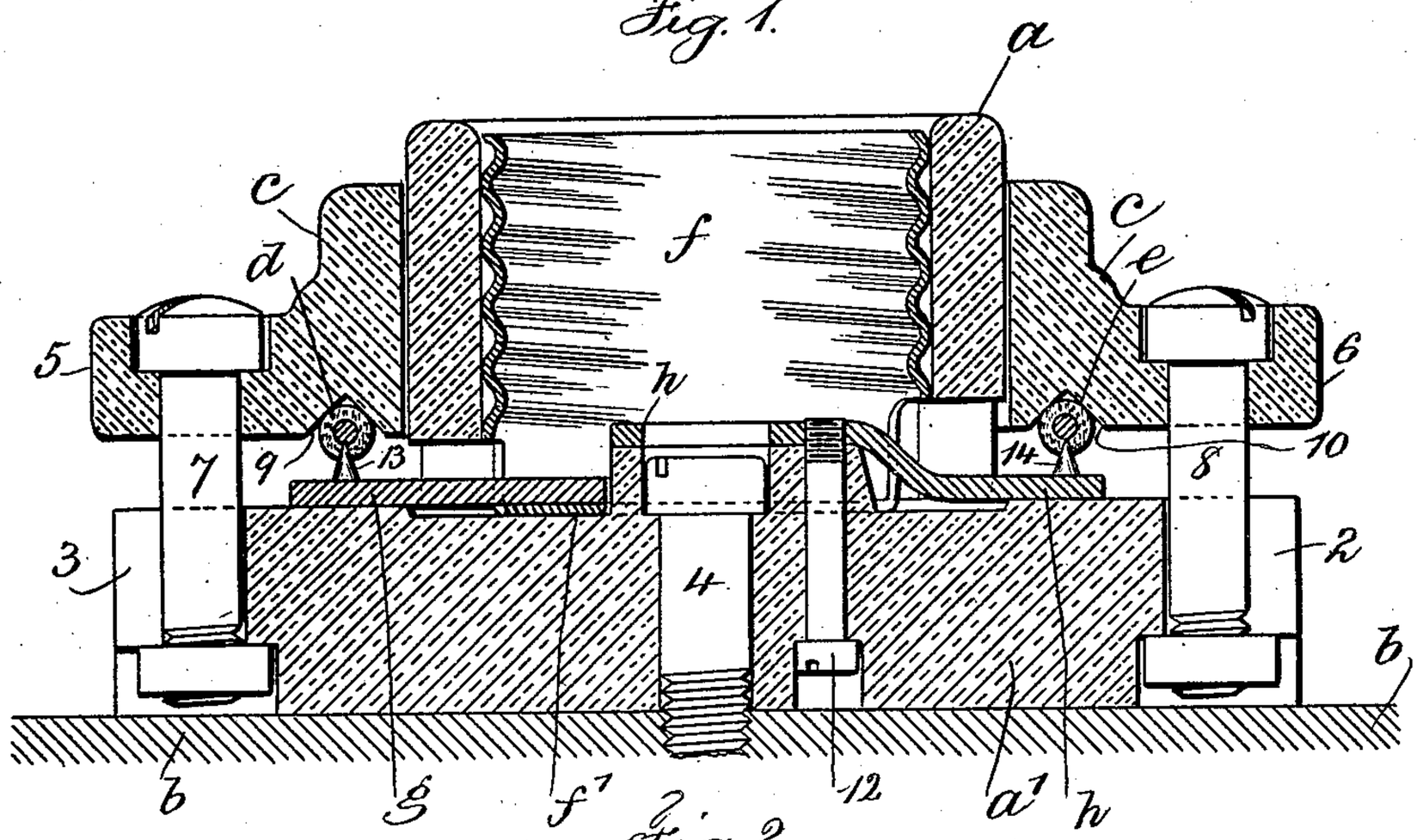
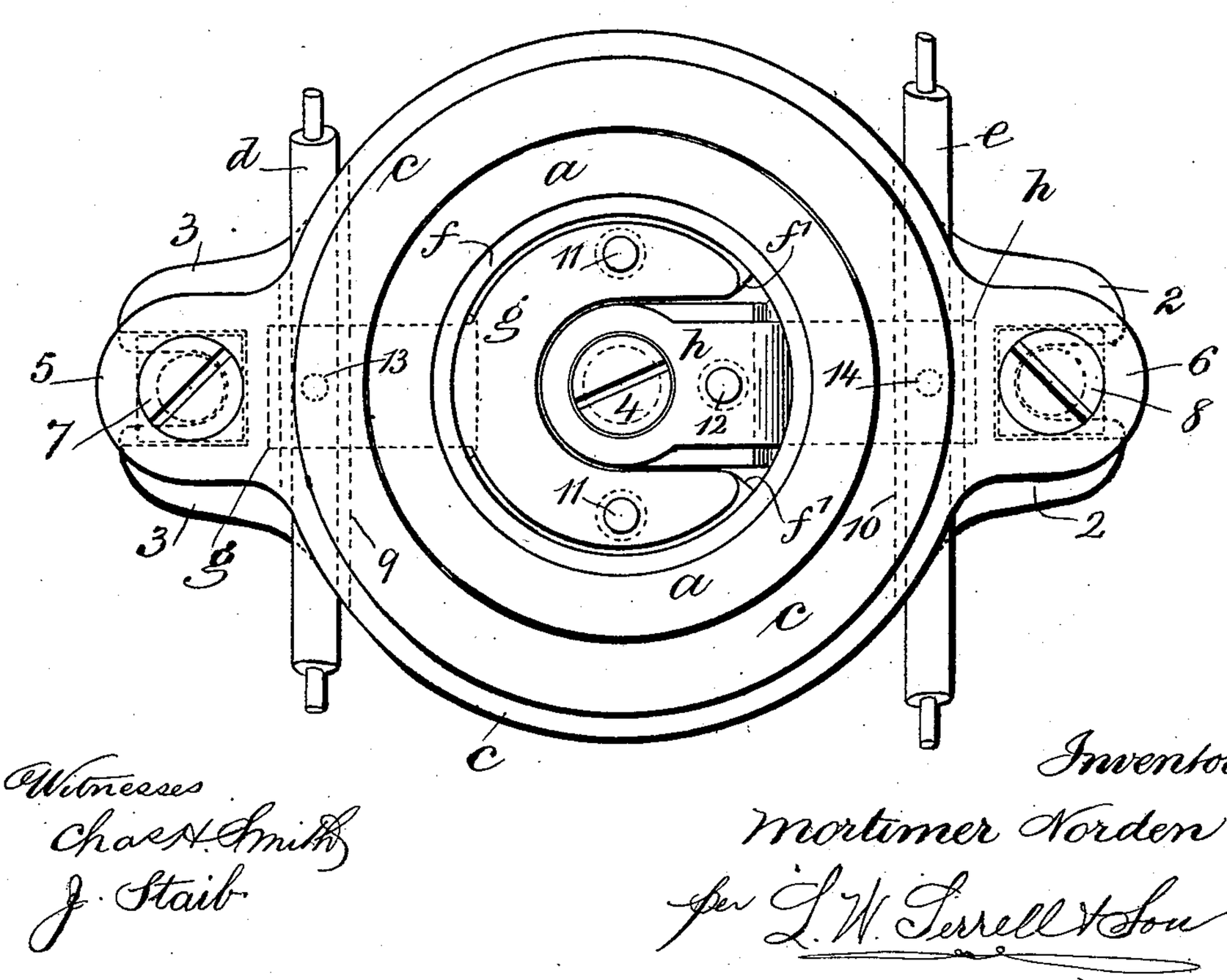


Fig. 2.



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UNITED STATES PATENT OFFICE.

MORTIMER NORDEN, OF NEW YORK, N. Y., ASSIGNOR TO THE NORDEN-BITTNER ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 714,022, dated November 18, 1902.

Application filed June 5, 1902. Serial No. 110,343. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER NORDEN, a citizen of the United States, residing at the borough of Manhattan, in the city, county, and State of New York, have invented an Improvement in Electric-Lamp Sockets, of which the following is a specification.

My invention relates to a novel construction of electric-lamp sockets of the form adapted to be placed in a fixed position, and the same further relates to a novel construction in which electrical contact with the insulated conductors is made automatically by the assembling of the parts.

I provide a cup, of porcelain or other suitable insulating material, and a base integral therewith and of larger diameter with a central aperture for an attaching-screw, with opposite apertures in the cup portion for the electrical connections, and with opposite lugs for securing to the base a collar of circular form which fits around the cup and is also provided with perforated lugs through which bolts pass for connecting the collar to the base. In the under surface of the collar there are parallel grooves along through which pass the insulated electric conductors, and the metallic devices providing for conducting the electric current to the lamp to be inserted in the socket and which pass through the opposite perforations of the cup are provided with penetrating points that in vertical planes agree with the center of the grooves for the electric conductors and which penetrating points pass automatically into and through the insulated covering of the electric conductors as the same are brought down to position and to connection with the base of the cup by the screws which secure the collar to the base.

In the drawings, Figure 1 is a vertical section, and Fig. 2 is a plan, representing my invention.

The cup *a*, of circular form, and the base *a'* also generally of circular form, are made integral of porcelain or other suitable insulating material. The cup at opposite sides where the same joins with the base is provided with opposite elongated perforations, and the base *a'* at opposite points is made with lugs 2 3, between which are intervening apertures, and the base *a'* is provided with a central aperture to receive a screw 4, employed for securely attaching the same to a foundation *b*.

A circular collar *c*, of insulating or refractory material, preferably agreeing with the cup and base, fits over and is received around the cup *a*, and the same is preferably provided with lugs 5 6 at opposite points, which are made with perforations. Bolts 7 8 pass through the perforations of the lugs 5 6 and down through the apertures between the lugs 2 3 of the base, the base at these lugs being preferably undercut for the nuts of the bolts 7 8, said bolts securing the collar *c* to the base and applying pressure to the electric conductors hereinafter described.

The under surface of the collar *c* is provided with parallel grooves or recesses 9 10. These receive the electric conductors *d e*, which are preferably wires covered with insulating material.

f represents the metal socket, of any desired form, fitting within the cup *a*, and this socket is cut away at the opposite apertures that pass through the base of the cup, and said socket is provided with a flanged base *f'* of circular form and which extends about two-thirds of the way around the metal socket and lies upon the surface of the porcelain or other material at the base of the cup.

A metal plate *g*, having a forked end of curved form and a straight portion extending therefrom, is provided, and the curved portion thereof lies upon the upper surface of the flanged base *f'*, and screws 11 pass through the base *a'*, the base *f'* of the socket *f*, and through the plate *g* in connecting the parts, and the straight portion of the plate *g* passes through the aperture in the base of the cup *a* and extends out beyond the cup, lying upon the surface of the base *a'*. There is another metal plate *h* of bent form that passes through the opposite aperture in the base of the cup *a*, extending out beyond the same and lying

upon the surface of the base a'. This is provided with a central aperture through which the attaching-screw 4 passes, and the central portion of this plate h lies upon the raised portion of the base a' within the cup, and said plate h is secured to the base by an attaching-screw 12.

The respective distant ends of the plates g and h are provided with penetrating points 13 14, extending in an upward direction and being in the same vertical planes as the center of the parallel grooves or recesses 9 10 in the under surface of the collar c. Consequently when the electric conductors d e are placed in the grooves 9 10 and the collar c placed over the cup a and the bolts 7 8 brought into position to secure the collar to the cup-base the points 13 14 are brought centrally of the insulated conductors d e, and in the act of connecting or assembling the parts said penetrating points are forced through the insulated covering material of the electric conductors to contact with the wires of said conductors, so as to form an electric contact for the passage of the current from the conductor d through the point 13, plate g, screw-socket f to the lamp, and from the lamp to the plate h, penetrating point 14, and conductor e, or vice versa, as the case may be. This device is composed of comparatively few parts, is so constructed that the cup and base, with the metallic parts connected therewith, may be arranged in position, and thereafter the electric conductors and the collar c are readily secured to the cup and base to complete the socket structure.

From the foregoing description and from the drawings it will be noticed that the parallel grooves or recesses in the under surface of the collar c are at right angles to an imaginary line drawn through the center of the cup, its base, and the collar in line with the lugs thereof and the positions occupied by the connecting-bolts 7 8 and also that the penetrating points 13 14 of the plates g and h are in this same imaginary line, so that the pressure automatically exerted by the bolts 7 and 8 upon the insulated electric conductors in connecting the collar to the base acts directly in line upon the penetrating points to force the same through the covering of insulating material to electric contact with the wires within.

I claim as my invention—

1. The combination with the cup and integral base and means for attaching the same in a fixed position, a metal socket in the cup and metal-plate conductors connected with the base and projecting through apertures in the cup to the outside thereof, of a collar surrounding the said cup provided with means for receiving and locating the electric conductors, means for connecting said collar to said base, and means for automatically forming an electric contact with the wires of the conductors by and at the time of connecting the collar to the base, substantially as set forth.

2. The combination with the cup and integral base, and means for attaching the same in a fixed position, a metal socket in the cup and metal-plate conductors connected with the base and projecting through apertures in the cup to the outside thereof, of a collar of insulating material surrounding the cup and provided in the under surface with parallel grooves or recesses for receiving the insulated electric conductors, means for connecting said collar to said base and penetrating points coacting with the metallic devices of the cup and adapted to penetrate the insulating material of the conductors to contact with the wires within, automatically with the connection of said collar to said base, substantially as set forth.

3. The combination with the cup and integral base, and means for attaching the same in a fixed position, a metal socket in the cup and metal-plate conductors connected with the base and projecting through apertures in the cup to the outside thereof, of penetrating points secured to and rising from the projecting ends of said plates, a collar also of insulating material fitting around the cup and provided with parallel grooves or recesses in the under surface thereof to receive the insulated electric conductors, said penetrating points and grooves or recesses being centrally in line with one another, and means for securing said cup to said base whereby the penetrating points automatically pass through the insulated covering of the electric conductors to contact with the wires therein by the act of connecting the collar to the base, substantially as set forth.

4. An electric-lamp socket comprising a circular cup and integral base of insulating material and in part of circular form and having lugs at opposite points between which are intervening apertures, the base having a central aperture for an attaching-screw and the cup having opposite apertures through its walls in line with the opposite apertures of the base, a metal socket in the cup, metal plates passing through the apertures in the walls of the cup and extending beyond the cup and lying upon the base, the one coming to the center of the cup and the other making metallic contact with the metal socket, and penetrating points formed with and rising from said metal plates at their opposite ends, a collar of insulating material of circular form fitting over and surrounding the cup and having opposite lugs with perforations and parallel grooves or recesses in the under surface of the cup at right angles to a central line extending through the lugs thereof, the grooves or recesses and the penetrating points being in line with one another, and bolts passing through and connecting with

the lugs of the collar and base for connecting the parts in a fixed relation whereby in the act of connecting the collar to the base the penetrating points pass through the insulating-covering of the conductors to contact with the wires therein, such electric connection being formed automatically and in line with the pressure applied in connecting the parts, substantially as set forth.

Signed by me this 3d day of June, 1902.

MORTIMER NORDEN.

Witnesses:

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