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A. NIELSEN

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SOCKET AND PLUG CONNECTION FOR ELECTRIC CIRCUITS

Filed March 24, 1923

Fig.1.

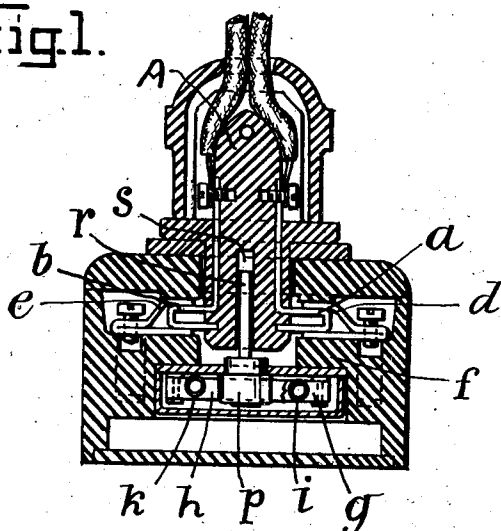


Fig.2.

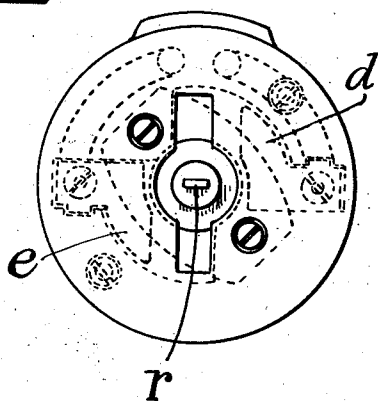


Fig.3.

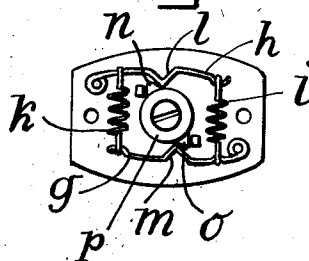
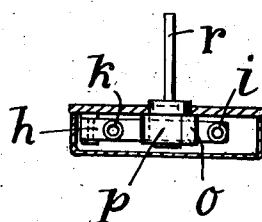


Fig.4.



Inventor:-

Alfred Nielsen

By:-

Plinius, Davis, Manning & Edwards,  
Attys

## UNITED STATES PATENT OFFICE.

ALFRED NIELSEN, OF CHRISTIANIA, NORWAY, ASSIGNOR TO ELEKTRISITETSFIRMAET  
FRANCIS SONNICHSEN & CO., OF CHRISTIANIA, NORWAY.

## SOCKET AND PLUG CONNECTION FOR ELECTRIC CIRCUITS.

Application filed March 24, 1923, Serial No. 627,285, and in Norway February 8, 1923.

The present invention relates to the type of electric plug and socket connections which comprises a central plug, having two radial contact pins, and which fits into a central recess in the socket, the radial contact arms of the plug being brought in engagement with contact surfaces in the socket upon being rotated a certain angle after its introduction in the socket.

The invention has for its object to provide a plug and socket connection of this type, having means for momentaneous closing and interruption of the current, said means acting also to prevent unintentional touching of the contact surface inside the socket.

On the drawing:

Fig. 1 is an axial sectional view through the socket embodying the present invention.

Fig. 2 is a plan view of the same with the plug removed.

Fig. 3 is a detail view of the mechanism for instantaneous closing and interruption seen from below, and

Fig. 4 is a detail axial section through the mechanism of Fig. 3.

A is the plug, which has a cylindrical extension, carrying two radial contact arms *a*, *b* of copper, brass, aluminium or the like connected with the current leads. The plug with its radial arms *a*, *b*, is adapted to be introduced in the socket through a corresponding opening in the socket cover.

Inside the socket there is provided two contact members *d*, *e*, with which the contact arms *a*, *b* may be brought in engagement by turning the plug about its axis at a right angle. The contact members *d*, *e* are connected with the main lines.

The above mentioned construction of plug and socket connection is a well known type and does not form any part of the present invention.

The socket is provided with an intermediate partition *f*, having a central opening and at the underside of its intermediant partition there is mounted in accordance with the present invention a device for causing instantaneous closing and interruption of the contacts.

This device which is illustrated in Figs.

3 and 4 comprises a central rotatable member *p*, having on its circumference two cams or bosses *o*, *n*, which are adapted to be engaged by corresponding cams or bosses *l*, *m*, on pivoted arms *g*, *h*, which are pressed against each other and against the rotatable member *p* by means of helical springs *k*, *i*.

The rotatable member *p* is further provided according to the present invention with a central rod *r* angular or flat in cross section and extending upwardly towards the opening in the socket cover and adapted to fit into a correspondingly shaped opening *s* in the plug, thus connecting the plug with the rotatable member *p*, when the plug is introduced in the socket. For bringing the plug contact arms *a*, *b* into or out of engagement with contact members *d*, *e*, the bosses *n*, *o* on rotatable member *p* will have to be brought past the bosses *l*, *m* on arms *g*, *h*, which causes a snapping movement to take place at the point where the contact arms *a*, *b*, are brought into or out of contact with contact *d*, *e*.

Besides serving this purpose the central rod or pin *r* obstructs the opening in the socket leading to the interior thereof, and thus prevents unintentional touching of the contact members *d*, *e* inside the socket.

Claims:—

1. In a plug and socket connection for electric circuits, a plug having radial contact arms, a socket having contact surfaces into and out of engagement with which said contact arms are adapted to be moved by turning the plug about its axis after its introduction into the socket, means located within the socket for causing instantaneous engagement and disengagement between the plug contact arms and the socket contact surfaces, and means including a coupling rod in the socket for establishing an operative connection between the plug and said means when the plug is inserted in the socket.

2. In a plug and socket connection for electric circuits, a plug having radial contact arms, a socket having contact surfaces into and out of engagement with which said contact arms are adapted to be moved by turning the plug about its axis after its in-

roduction into the socket, means comprising a rotatable spring controlled cam member for causing instantaneous engagement and disengagement between the plug contact arms and the socket contact surfaces, and a coupling rod associated with said rotatable member extending in the axial direction of

the plug, the plug having a recess adapted to receive said rod when the plug is inserted in the socket.

In testimony that I claim the foregoing as my invention, I have signed my name.

ALFRED NIELSEN.