

D. D. GORDON.
PLUG.
APPLICATION FILED APR. 1, 1911.

1,043,823.

Patented Nov. 12, 1912.

Fig. 1.

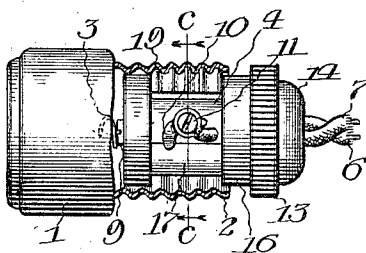


Fig. 2.

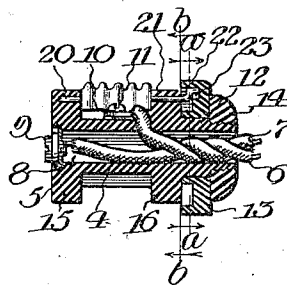


Fig. 3.

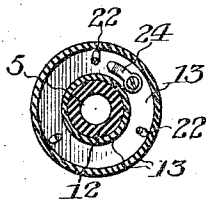


Fig. 4.

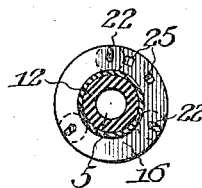


Fig. 5.

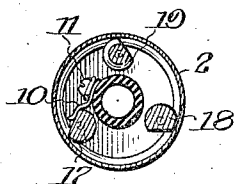


Fig. 6.

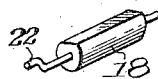


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PLUG.

1,043,823.

Specification of Letters Patent.

Patented Nov. 12, 1912.

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To all whom it may concern:

Be it known that I, DAVID D. GORDON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Plugs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to plugs and more particularly to that character of plug which is used in the electrical industry for making electrical connections. Plugs of the prior art on which my device is an improvement are of a general design having screw threaded means adapted for engaging screw threaded means within a socket, the proper engagement of the screw threaded means serving to complete electrical connections.

The object of my invention is to provide a plug which may be associated with an interiorly screw threaded or otherwise serrated socket in such a manner that the connecting cords which lead into the plug will not be twisted during the operation of making the connection.

I understand it to be old to provide a plug having a screw threaded portion rotatably mounted thereon, which is adapted for screw threaded association with the interior of the socket. On this latter style of plugs my invention is more particularly an improvement, in that it not only prevents, broadly speaking, the twisting of the cords in the act of making connection, but also reduces the amount of movement or rotation to which a movable portion of the plug need be subjected in order to make the required connection.

In one embodiment of my invention the plug need only be inserted in the socket, and a movable member thereon rotated relatively to the plug through an angle possibly of ten or twenty degrees, which slight movement completes the connection.

The objects generally speaking of my improved plug are thus set forth and these

general objects may be embodied in many different styles or constructions without departing from the general scope of my invention. Herein however, I will specifically describe one embodiment of my invention in connection with the accompanying drawing illustrating said embodiment, in which:

Figure 1 is a side view of my improved plug as shown associated with a socket shown partly in section; Fig. 2 is a sectional view of my improved plug; Fig. 3 is a sectional view on lines *a-a* of Fig. 2; Fig. 4 is a sectional view on line *b-b* of Fig. 2; Fig. 5 is a sectional view on line *c-c* of Fig. 1. Figs. 6 and 7 are details of construction.

Referring to the illustrations I show a socket 1 of ordinary construction having the screw threaded connecting portion 2 and the centrally located connecting spring 3 with which parts 2 and 3 my improved plug is adapted to make electrical connection: The plug proper consists of a body portion 4 having a central bore 5 through which the connecting cords 6 and 7 are adapted to enter. The cord 7 is adapted to have its insulation removed at the left hand extremity as shown in Fig. 2 and the bare wire connected between a thimble 8 and a screw 9. It is this screw 9 which is designed to contact with the spring 3. The screw 9 and the thimble 8 are permanently associated with the body portion 4 of the plug. The conductor 6 is adapted to have its insulation also removed at its left hand extremity and the bare wire associated with a contact element 10 by means of the screw 11.

The body portion 4 has a shank 12 about which a sleeve 13 is rotatably mounted and held thereon by means of the nut 14. Between the projecting flanges 15 and 16 of the element 4 I rotatably mount three rollers 17, 18 and 19. The roller 17 is adapted to be permanently in electrical engagement with the contact element 10 and the roller 19 has a portion of its periphery serrated

as shown more clearly in Fig. 7 and Figs. 1 and 2. These rolls 17, 18, and 19 have projecting pins 20 by means of which they are rotatably mounted within the flange 15 and have a shaft extension 21 having a crank lever extension 22 projecting through the flange 16. The crank extensions 22 are adapted to engage openings 23 provided in the collar or sleeve 13 so that when this collar 13 is rotated about its bearing 12 the rolls 17, 18 and 19 are rotated to engage the screw threaded element 2 of the socket, or to become disengaged therefrom depending upon the direction of rotation.

It will be seen that all of the rollers 17, 18 and 19 have a portion of their outer surface cut away so as to produce a flattened portion, which flattened portion is on the periphery of the plug at the time the plug is to be inserted into the socket, after which the collar 13 is rotated to push the rounded surfaces of these rollers against the screw threaded element 2, thereby to wedge the plug in place. The serrations on the roller 19 preferably do not correspond exactly with the teeth of the element 2 so that this roller 19 may be readily engaged and the plug fastened in place throughout any portion of the circular confines of the element 2.

A spring 24 is provided upon the collar 13 which engages notches 25, 25 at the limiting positions of the collar, that is, the position at which the flattened surfaces of the rollers are on the exterior and in that position in which the said rollers have been turned so that their rounded portions are presented on the exterior of the plug.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not mean to limit myself to such specific description, but having thus shown and described one form of carrying out my invention, what I claim as new and desire to secure by Letters Patent is:

1. A connecting plug adapted for association with a socket and having a fixed terminal, a movable terminal adapted to wedge said plug in said socket, and rotatably mounted means for moving said terminal adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a rotatably mounted collar and a crank shaft interposed between said collar and said movable terminal.

2. A connecting plug adapted for association with a socket and having a fixed terminal, a plurality of movable terminals adapted to wedge said plug in said socket, and rotatably mounted means for moving said terminals adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a

rotatably mounted collar and crank shafts interposed between said collar and said movable terminals.

3. A connecting plug adapted for association with a socket and having a fixed terminal, a movable terminal adapted to wedge said plug in said socket, stationarily mounted contact means adapted for contact making association with said terminal, and rotatably mounted means for moving said terminal adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a rotatably mounted collar and a crank shaft interposed between said collar and said movable terminal.

4. A connecting plug adapted for association with a socket and having a fixed terminal, a movable terminal having a serrated edge adapted to wedge said plug in said socket, and rotatably mounted means for moving said terminal adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a rotatably mounted collar and a crank shaft interposed between said collar and said movable terminal.

5. A connecting plug adapted for association with a socket and having a fixed terminal, a plurality of movable terminals having serrated edges adapted to wedge said plug in said socket, and rotatably mounted means for moving said terminals adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a rotatably mounted collar and crank shafts interposed between said collar and said movable terminals.

6. A connecting plug adapted for association with a socket and having a fixed terminal, a movable terminal having a serrated edge adapted to wedge said plug in said socket, stationarily mounted contact means adapted for contact making association with said terminal, and rotatably mounted means for moving said terminal adapted to wedge the plug in place when rotated through a portion of a complete revolution, said means including a rotatably mounted collar and a crank shaft interposed between said collar and said movable terminal.

7. A connecting plug adapted for association with a socket having a fixed terminal, a plurality of independently mounted rotatable terminals adapted to wedge said plug in said socket, and rotatable means concentrically arranged upon said plug to operate said terminals.

8. A connecting plug adapted for association with a socket, having a fixed terminal, a rotatable terminal adapted to wedge said plug in said socket, and means concentric with said plug to operate said terminal.

9. A connecting plug adapted for association with a socket, having a fixed terminal, a plurality of independently mounted rotatable terminals adapted to wedge said plug in said socket, and a collar to operate said terminals.

10. A connecting plug adapted for association with a socket, having a fixed terminal, a rotatable terminal adapted to wedge

said plug in said socket, and a collar to operate said terminal.

In witness whereof, I hereunto subscribe my name this 25th day of March A. D., 1911.

DAVID D. GORDON.

Witnesses:

O. M. WERMICH,
HAZEL JONES