

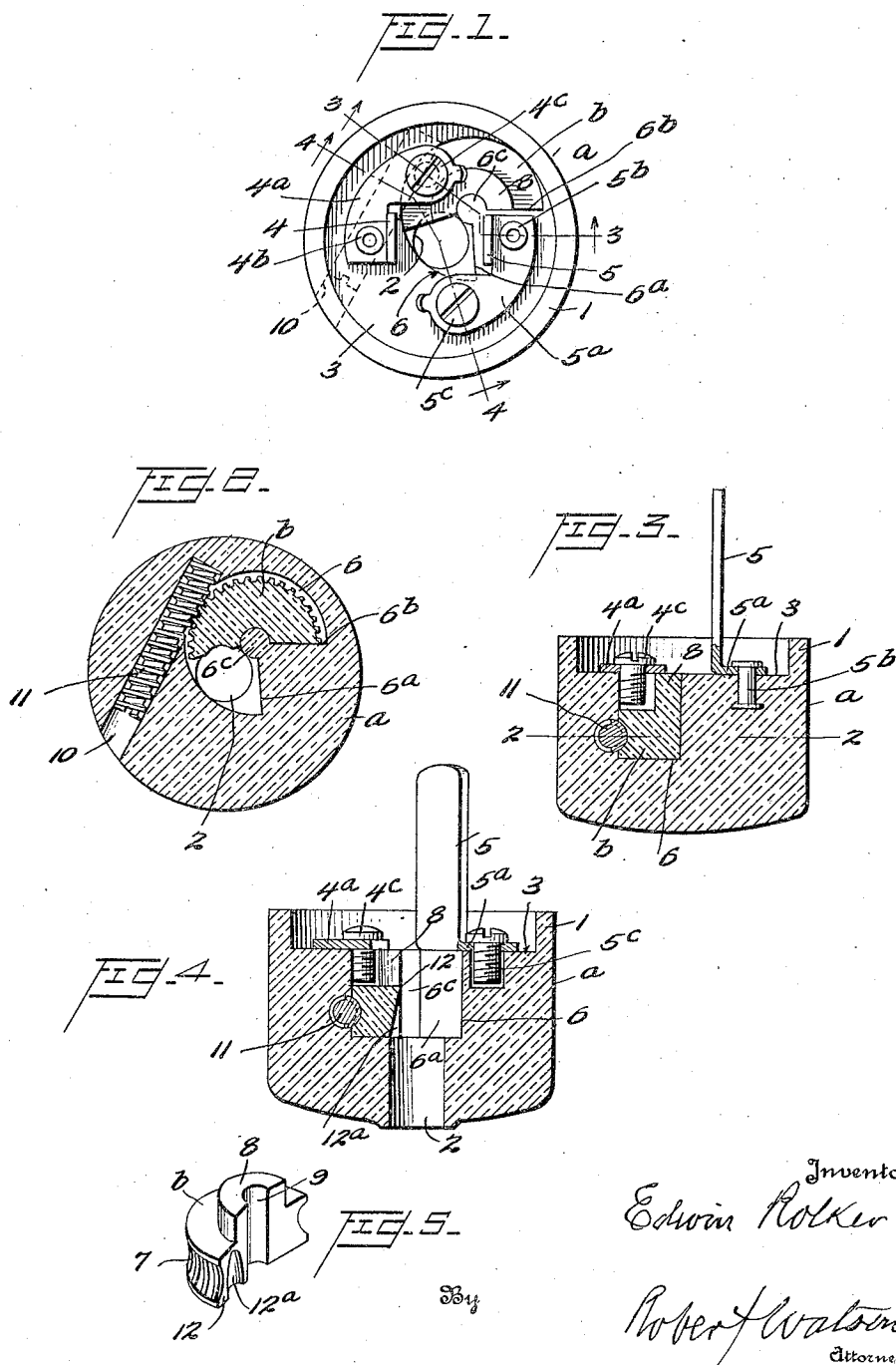
June 9, 1931.

E. ROLKER

1,809,532

CORD ATTACHMENT FOR PLUGS AND SOCKETS

Filed Jan. 17, 1930



UNITED STATES PATENT OFFICE

EDWIN ROLKER, OF BALTIMORE, MARYLAND, ASSIGNOR TO SAFEASY FIXTURE COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND

CORD ATTACHMENT FOR PLUGS AND SOCKETS

Application filed January 17, 1930. Serial No. 421,499.

This invention relates to a connector for electric cords, and particularly to means whereby the ends of the conductors which are connected to the terminals of the connector will be relieved of strain.

In carrying out the invention, I provide a cylindrical body of molded insulating material having an axial bore through which the flexible electric cord passes to the terminals of the connector and having a socket in which is arranged a clamping member consisting of a gear segment, made of insulating material, which segment is movable transversely of the bore to clamp or release the cord. This segment is movable by a worm which is journaled in the body. By turning the worm in one direction the clamping member will tightly grip the cord and the worm will lock the member against accidental displacement.

In the accompanying drawings,

Fig. 1 is an end view of the connector;

Fig. 2 is a transverse section on the line 2—2 of Fig. 3;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 1; and,

Fig. 5 is a perspective view of the gripping member.

Referring to the drawings, *a* indicates the body of the connector which is composed of molded insulating material, cylindrical in form, and having a flange 1 at one end and an axial bore 2, extending inwardly from the opposite end. On the face 3 of the body, which is surrounded by the flange 1, are arranged parallel flat terminals 4 and 5, at opposite sides of the bore. The terminal 4 has an arcuate foot-piece 4^a which lies against the face 3 and is secured to the body by a fastening device 4^b, and this foot-piece carries a binding screw 4^c, for connecting one terminal of an electric cord to the foot-piece and terminal 4. The terminal 5 is connected to an arcuate foot-piece 5^a which is secured to the body by a fastening device 5^b, and a binding

post 5^c is carried by the foot-piece and arranged diametrically opposite the binding post 4^c.

The body is molded with a segmental socket 6 extending inwardly from the face 3 to the bore 2 and, as shown in Fig. 2, the end walls 6^a and 6^b of this socket extend radially from a bearing 6^c which is integral with the body and parallel with the bore 2 but located at one side thereof. The walls 6^a and 6^b, as shown in the drawings, are spaced apart and the wall 6^a is near the line of the bore 2. Within the socket is arranged a clamping member 7, composed of molded insulating material and comprising a semi-circular gear segment 7 and a hub portion 8, which projects above the gear, this hub portion having a groove 9 which fits the bearing 6^c. When the gripping member is within the socket the end of the hub portion lies flush with the face 3 of the body. A socket 10 extends inwardly from the side of the body in a direction which is tangential to the gear segment and a worm or screw 11 is journaled in this socket and engages the teeth on the gear segment. By turning the screw by means of a screw driver inserted into the socket 10, the gear segment may be rotated about the bearing 6^c from the position shown in Figs. 2 and 4, wherein the end 12 of the gear segment is at one side of the bore 2 and the opposite end is in engagement with the wall 6^b, into a position where the end 12 will extend partly over the bore 2 to grip an electric cord and bend it out of line with the bore 2. The end 12 of the gear segment may be grooved, as indicated at 12^a, so that when the gripping member is in the position shown in Figs. 2 and 4, the grooved portion will coincide with the curvature of the bore 2 at the bottom of the gear but will slightly overhang the bore at the top of the gear, this arrangement being for the purpose of bending the flexible cord out of line with the bore as the cord is passed upwardly through the bore and socket, and also, when

the clamping member is tightened against the bore, the upper part of the end 12 will bear against the cord at a suitable distance above the end of the bore to maintain the bend in the cord and grip it tightly against the end wall of the socket.

In assembling the parts, the gear segment is placed in the segmental socket with its end 12 against the wall 6^a and the worm is then pushed into the bore 10 to engage the gear. As the worm is pressed to the bottom of the bore the gear rocks into engagement with the wall 6^b of the socket, in which position the end 12 of the gear is out of line with the axial bore. With contact members of the kind shown in the drawings, the binding post or screw 4^e is located in line with the segmental socket and in order that this binding post may not interfere with the movement of the gripping member, the upper part of said member is of reduced diameter, forming the hub 8 and the screw extends into the space between said hub and the arcuate wall of the socket. The foot-piece 4^a projects over the hub 8 and retains the gear segment in the socket.

As the screw or worm 11 is accessible from the outer side of the body, it will be seen that the locking member can be tightened or released without removing any of the parts. Also, when the locking member is tightened against the cord the worm prevents any accidental turning of said member.

The connector may be used with various kinds of electric contacts and fittings and those shown are only illustrative. Thus, the cord gripping device may be embodied in the base of a lamp socket or in any device used for coupling flexible electric cords to electric circuits.

What I claim is:

1. A connector comprising a cylindrical body of molded insulating material having a socket at one end and an axial bore at the other end terminating in said socket, a part of the wall of the socket adjacent but out of line with the bore constituting a bearing, a segmental gear in said socket pivoting on said bearing and having one end movable over the inner end of the bore, and a screw journaled in the body and engaging the teeth of said gear.

2. A connector comprising a cylindrical body of insulating material having an axial bore at one end to receive an electric cord and having a segmental socket at the other end, the latter eccentric to the axis of the bore, and having also a bearing at the center of the socket, said bore intersecting said socket near one end of the latter, a segmental gear in said socket pivoting on said bearing, one end of said gear adapted to move over the end of the bore to grip the cord, and a worm journaled in the body and engaging the gear teeth.

3. A connector comprising a cylindrical body of insulating material having an axial bore at one end to receive an electric cord and having a segmental socket at the other end, the latter eccentric to the axis of the bore, and having also a bearing at the center of the socket, said bore intersecting said socket near one end of the latter, a segmental gear of insulating material in said socket pivoting on said bearing, one end of said gear adapted to move over the end of the bore to grip the cord, and a worm journaled in the body and engaging the gear teeth.

4. A connector comprising a cylindrical body of insulating material having an axial bore at one end to receive an electric cord and having a segmental socket at the other end, the latter eccentric to the axis of the bore, and having also a bearing at the center of the socket and a bore extending from the side of the body tangentially to the wall of the socket, said axial bore intersecting said socket near one end of the latter, a segmental gear in said socket pivoting on said bearing, one end of said gear adapted to move over the end of the bore to grip the cord, and a worm in said tangential bore engaging the gear teeth.

5. A connector comprising a cylindrical body of insulating material having an axial bore at one end to receive an electric cord and a segmental socket at the other end, the latter eccentric to the axis of the bore, and having also a bearing at the center of the socket, said bore intersecting said socket near one end of the latter, a segmental gear in said socket pivoting on said bearing and having a hub projecting beyond the body of the gear, one end of said gear adapted to move over the end of the bore to grip the cord, a worm journaled in the body and engaging the gear teeth, and a member having a part extending over said hub to retain the gear in the socket.

6. The combination with a connector comprising a body of insulating material having a bore for receiving an electric cord and having terminals to which the wires of the cord may be attached, of a segmental gear journaled within the connector body and adapted to clamp the cord against the body, and means accessible from without the body for moving said gear to clamp and release the cord.

7. The combination with a connector comprising a body of insulating material having a bore for receiving an electric cord and having terminals to which the wires of the cord may be attached, of a segmental worm gear journaled within the connector body and adapted to clamp the cord against the body, and a screw engaging the teeth of said gear for moving the same to clamp and release the cord, one end of the screw being accessible from without the body.

8. The combination with a connector com-

prising a body of insulating material having
a bore for receiving an electric cord and hav-
ing terminals to which the wires of the
cord may be attached, of a segmental worm
5 gear of insulating material journaled within
the connector body and adapted to clamp the
cord against the body, and a screw engaging
the teeth of said gear for moving the same to
clamp and release the cord, one end of the
10 screw being accessible from without the body.

In testimony whereof I affix my signature.

EDWIN ROLKER.

15

20

25

30

35

40

45

50

55

60

65