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E. CORNELLA

2,388,724

WIRE CONNECTOR

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Fig. 1.

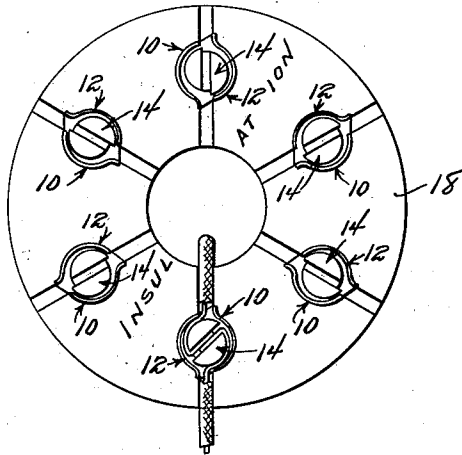


Fig. 2.

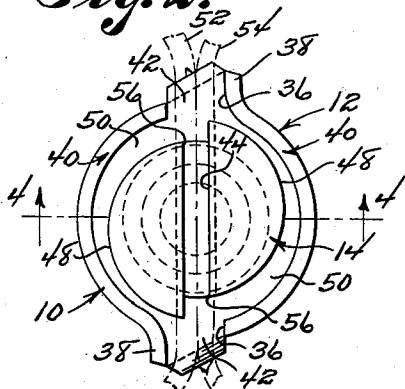


Fig. 3.

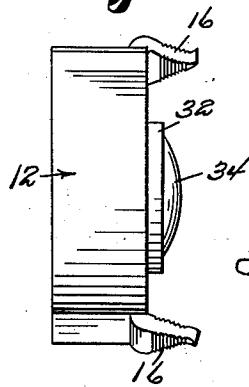


Fig. 4.

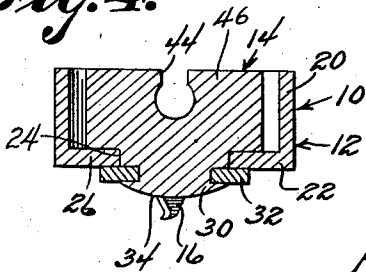
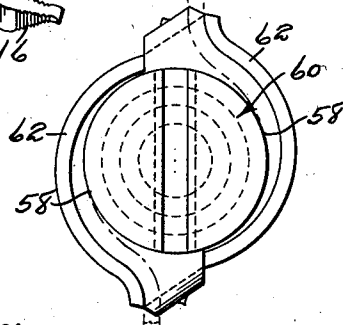


Fig. 5.



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UNITED STATES PATENT OFFICE

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WIRE CONNECTOR

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3 Claims. (Cl. 173—324)

My invention relates to electric circuits, and has among its objects and advantages the provision of an improved electric wire connector.

In the accompanying drawing:

Figure 1 is a plan view of a support illustrating a group of connectors mounted thereon;

Figure 2 is a face view of one of the connectors;

Figure 3 is a side view;

Figure 4 is a sectional view of one part of the connector along the line 4—4 of Figure 2; and

Figure 5 is a face view of a modified connector.

In the embodiment selected for illustration, the connector 10 of Figures 2, 3 and 4 comprises an outside member 12 and a relatively rotatable inside body or member 14. Both members are formed of conducting material. Roughened lugs 16 are fixed to the member 12 to be embedded in an insulative support or body 18, such as in Figure 1, to hold the member 12 against rotation with relation to the body 18. For house wiring purposes, a plurality of connectors 10 is mounted on the support 18.

The member 12 comprises an annular wall 20 and a bottom wall 22 provided with an opening 24. The member 14 has its end 26 lying on the wall 22 and its opposite end lying in the plane of the upper end of the flange 20.

A neck 28 is formed integrally with the member 14 and projects loosely through the opening 24. This neck has an axial shank 30 on which is mounted a washer 32 held in place through riveting of the shank, as at 34. Thus the member 14 is rotatably connected with the member 12 but is restrained from axial movement.

Two diametrically opposed slots 36 are formed in the flange 20 throughout the length of the flange down to the bottom wall 22. One side of each slot is defined by a lip 38 comprising a reversely curved continuation of the flange 20, and the two slots divide the flange into two diametrically opposed clamp sections 40. The lugs 16 comprise downwardly extending continuations of the bottom wall extensions 42 constituting the bottom limits of the slots 36.

In the outer end of the member 14 is a transverse slot 44 located centrally of the member so as to be in axial alignment with the two slots 42 when the members 12 and 14 are in the relative positions of Figure 2. The slot 44 has communication with a wire receiving bore 46 located substantially equal distances from and in parallelism with the inner and outer ends of the member 14.

While the neck 28 is coaxially positioned with respect to the flange 20, the member 14 is provided with clamp faces 48 of spiral contour to have wire clamping coaction with the clamp sections 40. With the member 14 in the position of Figure 1, the faces 48 and the inner faces of the sections 40 define two wire-receiving spaces 50 of equal lengths, contours and tapers.

In operation, the wires 52 and 54 are threaded through the bore 46 or pressed into the bore through the slot 44. The two wires are overlapped in such amounts that the wire ends project short distances beyond the outside diameter of the member 12 and in opposite directions. A screw driver is then inserted in the slot 44 and the member 14 rotated relatively to the member 12 in a clockwise direction. Such rotation bends the two wires at the corners 56, and bends the wires about the faces 48, with the result that the wires drawn between the cam faces 48 and the clamp sections 40 are secured firmly therebetween because of the spiral contours of the cam faces.

Figure 5 illustrates a modified construction only to the extent that the clamp faces 58 on the rotatable member 60 are concentric with respect to the axis of rotation of the member. The clamp sections 62 are spirally arranged for wire clamping coaction with the faces 58 to attain the clamping action of the sections 40 and the faces 48. All the faces 48 and 58 and the sections 40 and 62 may be roughened to secure better retention of the wires in exceptional cases where such additional holding power is desirable.

Without further elaboration, the foregoing will so fully illustrate my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. A wire connector comprising a member provided with opposed flanges having their inner sides curved to provide wire clamping faces, and a second member located between the flanges and having curved sides providing wire clamping faces confronting said first clamping faces, the second member having a bore for the reception of the ends of the wires to be connected and the clamping faces of the members being relatively spaced to receive therebetween loops formed in the wires, the clamping faces of the respective members being eccentrically related and the members being rotatable one with relation to the other to allow the clamping faces to be moved into wire holding or wire releasing position, and the ends of the flanges being relatively spaced to provide slots for the reception of those portions of the wire beyond the loops.

2. A wire connector as set forth in claim 1, wherein the first member is provided with attaching lugs extending angularly therefrom.

3. A wire connector as set forth in claim 1, wherein the bore of the second member extends diametrically therethrough, wherein the first member is provided close to the slots with attaching lugs extending angularly therefrom, and wherein each flange is provided at one end with a curved extension for contact by those portions of the wire in the slots.

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