D. R. LOVEJOY.

CONNECTOR FOR ELECTRIC WIRES.

APPLICATION FILED SEPT. 27, 1912.

1,064,920. Patented June 17, 1913.

FIG. 1.

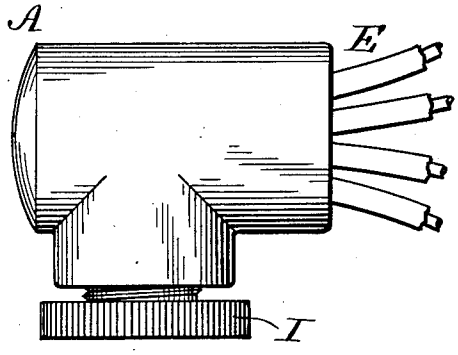


FIG. 2.

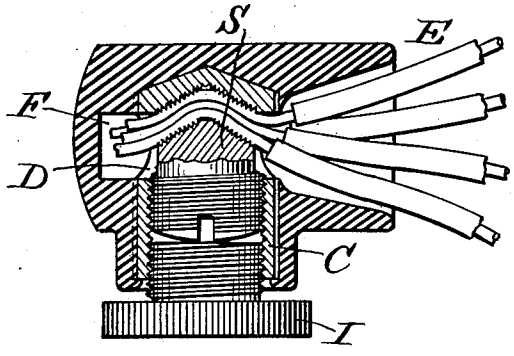


FIG. 3.

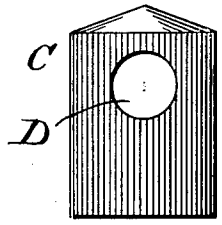


FIG. 5.

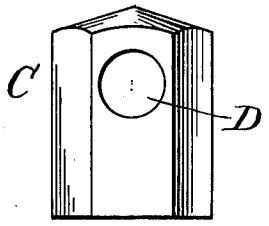


FIG. 7.

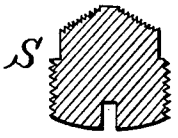


FIG. 4.

FIG. 6.

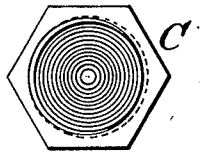


FIG. 8.

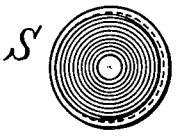
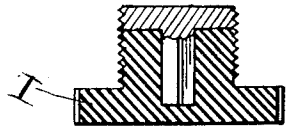


FIG. 9.



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UNITED STATES PATENT OFFICE.

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CONNECTOR FOR ELECTRIC WIRES.

1,064,920. Specification of Letters Patent. Patented June 17, 1913.

Application filed September 27, 1912. Serial No. 722,676.

To all whom it may concern:

Be it known that I, DIMMITT ROSS LOVEJOY, a citizen of the United States, residing at Freneau, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Connectors for Electric Wires, of which the following is a specification.

My invention relates to connectors for electric wires and is particularly adapted for making connection between the circuit wires at an outlet and the fixture wires of a chandelier or fixture, under a ceiling canopy or in an outlet box, or for other inaccessible situations where it would be a slow and awkward task to make a soldered and taped joint or splice.

In the drawing, Figure 1 shows a side elevation of my device with a bunch of wires of indiscriminate sizes inserted therein and clamped together. Fig. 2 is a cross sectional view of the same and shows how the wires are bent or kinked under the action of the clamping screw and are further securely held by the concentric circular grooves in the base of the shell and on the point of the screw, and also shows how the bared tips of the wires projecting beyond the clamping members are covered by insulation so as to require no tape. Fig. 2 also shows how the clamping screw proper is locked in place by a non conducting follower screw which also serves to insulate the head thereof. Fig. 3 is an elevation and Fig. 4, a plan view of the metallic shell of the connector, showing how its exterior surface is roughened or knurled to secure against its turning in the insulating mass. Figs. 5 and 6 are similar views showing the shell with a polygonal exterior to the same end. Fig. 7, shows the clamping screw in section and the method of forming on the point thereof circular concentric grooves that bite into the wires, increase the area of contact and assist in holding them securely. Fig. 8 is a plan of the point of the screw. Fig. 9 is a section of a modification of the follower screw, showing how its point may be metallic and its head insulating.

Since it is usually necessary to clamp or connect together a multiplicity of wires, usually of two or more different sizes, it is required that the connector shall simultaneously clamp a number of wires of random sizes and hold them all firmly. It is also desirable that the finished joint or splice shall have no exposed conducting parts and that it shall not be necessary to use tape to insure this. To these ends, I provide a conducting shell C, having a roughened exterior for the purpose of preventing it from turning in the insulating mass within which it is to be embedded. A polygonal or irregular exterior would be rough in this sense. The shell is internally threaded to receive a clamping screw S and the bottom thereof is preferably concave, conically or curved, and has circular concentric grooves formed therein to bite into the mass of wires when they are pressed down by the clamping screw S. The screw point is preferably convex, conical or curved, and is similarly provided with concentric grooves. The object of the convex point and corresponding concave recess, is to cause the bunch of wires to be kinked or bent as shown in Fig. 2, and ahus add to the security with which they are held.

In order to insulate the head of the clamping screw S, I provide a follower screw I, which may be made entirely of insulating material as in Fig. 2 or having the head thereof only made of insulating material as shown in Fig. 9. This screw in addition to insulating the head of screw S, also serves as a lock or jam screw to aid in preventing the slackening up of the screw S.

The shell C is pierced with a transverse hole D to receive the wires, and the insulating mass A, in which the shell is embedded, is provided with a projecting bell mouth E, in line with this hole, and an interior recess F, also in line therewith. This recess allows the bunch of wires to pass completely through the clamp proper and still have their ends covered and protected with insulation. The bell mouth E is made deep enough to cover the wires over a portion of their length so that there shall be no exposed bare wire.

I claim—

1. A connector for electric wires comprising an internally threaded shell and a screw adapted to play therein, said shell having a hole for receiving wires and the bottom of said shell having concentric grooves formed thereon and said screw having concentric grooves formed on the point thereof.

2. A connector for electric wires comprising an internally threaded shell and a screw adapted to play therein, said shell having a hole for receiving wires and the bottom of

said shell being concave and having concentric grooves formed thereon, and said screw having a convex point and having concentric grooves formed thereon.

3. A connector for electric wires comprising an internally threaded shell, a clamping screw adapted to play therein and a follower screw also adapted to play therein, said shell having a hole for receiving wires and the bottom of said shell being concave and having concentric grooves, said clamping screw having a convex point provided with concentric grooves and said follower screw being adapted to lock said clamping screw in place.

4. A connector for electric wires comprising an internally threaded shell, a clamping screw adapted to play therein, and insulation covering the exterior thereof, said shell having a hole for receiving wires and said insulation having a mouth in alinement with said hole, said insulation also having an internal recess in alinement with said hole, said shell having concentric grooves formed in the bottom thereof and said clamping screw having concentric grooves on the point thereof.

5. A connector for electric wires comprising an internally threaded shell, a clamping screw adapted to play therein, a follower screw adapted to play therein, and insulation covering the exterior thereof, said shell having a hole for receiving wires and said insulation having a mouth in line with said hole and an internal recess in line with said hole, and said follower screw having an insulated head.

6. A connector for electric wires comprising an internally threaded shell, a clamping screw adapted to play therein, a follower screw also adapted to play therein, and insulation covering the exterior thereof, said shell having a rough exterior and said shell having a hole adapted to receive wires, the bottom of said shell being concave and provided with concentric grooves, said insulation having a mouth in line with said hole in said shell and said insulation having an internal recess in line with said hole, said clamping screw having a convex point provided with concentric circular grooves, and said follower screw having an insulated head.

7. A connector for electric wires comprising an internally threaded shell and a screw adapted to play therein, said shell having a hole for receiving wires and the bottom of said shell and the point of said screw forming co-acting surfaces for clamping said wires inserted through said hole, one of said co-acting surfaces being provided with concentric grooves.

DIMMITT ROSS LOVEJOY.

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