E. F. WAKEFIELD.

ELECTRIC CONNECTOR.

APPLICATION FILED AUG. 27, 1913.

1,154,354. Patented Sept. 21, 1915.

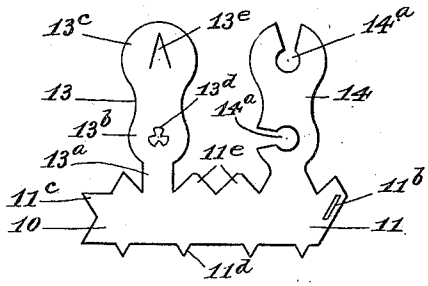


Fig. 1

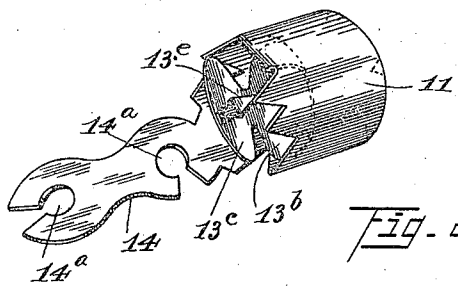


Fig. 2

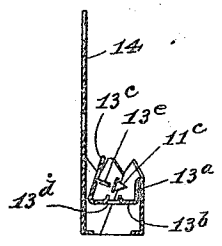


Fig. 3

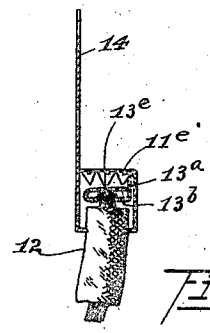


Fig. 4

Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRIC CONNECTOR.

1,154,354. Specification of Letters Patent. Patented Sept. 21, 1915.

Application filed August 27, 1913. Serial No. 786,321.

To all whom it may concern:

Be it known that I, EDWIN F. WAKEFIELD, a citizen of the United States, residing at Chagrin Falls, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Electric Connectors, of which the following is a full, clear, and exact description.

This invention relates to a connector for electric conductors and has for its object the provision of a connector which is inexpensive, which can be easily applied or attached to a conductor, and, when attached, holds or grips the conductor so securely that liability of accidental disconnection or loosening of the parts is minimized.

My invention may be here briefly summarized as consisting in certain novel details of construction and combinations and arrangements of parts which will be described in the specification and set forth in the appended claims.

My invention in some of its aspects may be embodied in several specifically different forms which may be constructed in different ways and in the accompanying sheet of drawings wherein I have shown one form of my invention which operates successfully, Figure 1 is a plan view of the piece of metal which forms the connector and after the piece has been stamped or blanked from a metal strip or sheet. Fig. 2 is a perspective view of the connector constructed in accordance with the one form of my invention here illustrated, the same being shown on a slightly enlarged scale. Fig. 3 is a longitudinal sectional view of the connector before the conductor is attached thereto; and Fig. 4 is a similar view with the conductor attached.

Referring, now, to the drawings, it will be seen that the connector as here shown is formed from a single piece of metal 10, which is stamped by one operation from sheet metal. This piece 10 includes a body portion 11, which is adapted to be rolled, bent or otherwise formed into tubular or cylindrical shape, as shown in Fig. 2, so as to be capable of receiving the end of a flexible conductor 12, preferably of the multi-strand type. Extending from the body portion 11 of the piece 10 are two projecting portions 13 and 14,—the latter of which is provided with one or more openings 14^a adapted to receive the projecting end of any suitable conductor, which, by any binding screw construction, can be clamped to the part 14. The projecting part 13 includes, first, a rather narrow neck portion 13^a which, in the formed or completed connector, extends or is bent back inwardly into the cylindrical portion 11; second, a substantially circular portion 13^b which is on the interior of and is bent transversely across the cylindrical part 11; and third, a substantially circular free end portion 13^c which is bent upwardly alongside the portion 13^b. It will be observed that the portion 13^b is provided with a central opening 13^d into which the end of the multi-strand conductor 12 is adapted to be extended, as shown in Fig. 4, and that the portion 13^c is provided with an inwardly projecting spur 13^e which is so located with reference to the opening 13^d that when the tab or end portion 13^c is bent upwardly the said spur will enter into the opening 13^d among the strands of the conductor 12 and will cause the conductor and connector to be firmly held together, making a good mechanical and electrical connection. It is not essential that there be simply one spur, for two or more spurs 13^e may be employed, if the same are desired.

To hold the connector in the shape or form desired, and especially to hold the portion 11 in the cylindrical form, any suitable locking means may be provided at the adjacent edges of the portion 11. In the drawings one edge or end of the portion 11 is provided with a slit 11^b, and the opposite end is provided with a tongue 11^c, which is adapted to be inserted into the slit 11^b and to be doubled back upon itself to lock the two edges together, as shown in Fig. 3. The body portion 11 is provided along one of its longitudinal edges with a plurality of teeth 11^d, and along its opposite longitudinal edge with teeth 11^e. The teeth 11^d are adapted to be bent inwardly in the manner shown in Figs. 3 and 4, so as to bite into the insulation of the conductor 12, and the teeth 11^e are adapted to be bent inwardly over or alongside the tab 13^d to hold the same in place, although any other suitable means may be utilized to secure or fasten together the portions 11 and 13^c.

If desired, the connector may be inclosed

in a suitable sleeve or casing of insulating material which may be molded or otherwise placed about the connector.

Having described my invention, what I claim is:

1. A connector for electric conductors comprising a tubular portion, and parts integral therewith and extending alongside each other substantially transversely of the tubular portion, one of said parts having an opening for a conductor and the other adapted to engage the end of the conductor.

2. A connector for electric conductors comprising a tubular portion, a portion integral therewith and extending substantially transversely of the tubular part, said last named portion having an opening through which the end of a conductor is adapted to be inserted, and a third portion bent adjacent the transversely extending portion and adapted to engage a portion of the conductor extending through said opening.

3. A connector for electric conductors formed from a piece of flexible metal and comprising a tubular portion, and two parts extending substantially alongside each other, one of said parts having an opening for a conductor and the other having a spur which projects toward the opening and is adapted to engage the conductor.

4. A connector for electric conductors formed from a piece of flexible metal and comprising a tubular portion, and two parts extending substantially alongside each other, one of said parts having an opening for a conductor and the other having a spur which projects toward the opening, and means for holding said part having the spur in said tubular part.

5. A connector for electric conductors comprising a tubular portion, two parts extending substantially transversely of the tubular portion, and including an inner part having an opening for a conductor and an outer part extending over the outer side of said part having the opening, and teeth projecting from one edge of the tubular part and adapted to be bent inwardly over said other part.

6. A connector for electric conductors comprising a tubular portion, and two parts extending substantially alongside each other and projecting from one edge of the tubular part, one of said parts having an opening for a conductor, and teeth projecting from the other edge of said tubular part.

7. A connector for electric conductors formed from a piece of flexible metal and comprising a tubular portion with normally free ends, and a portion integral therewith and including two parts extending substantially alongside each other, one of said parts having an opening for a conductor and the other having a spur which projects toward the opening, and means for fastening together the ends of the tubular part.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

EDWIN F. WAKEFIELD.

Witnesses:
F. A. NESBITT,
A. F. KWIS.