F. W. OETTGEN.

CONDUCTOR SPLICER.

APPLICATION FILED MAY 3, 1910.

978,630. Patented Dec. 13, 1910.

Fig. 1

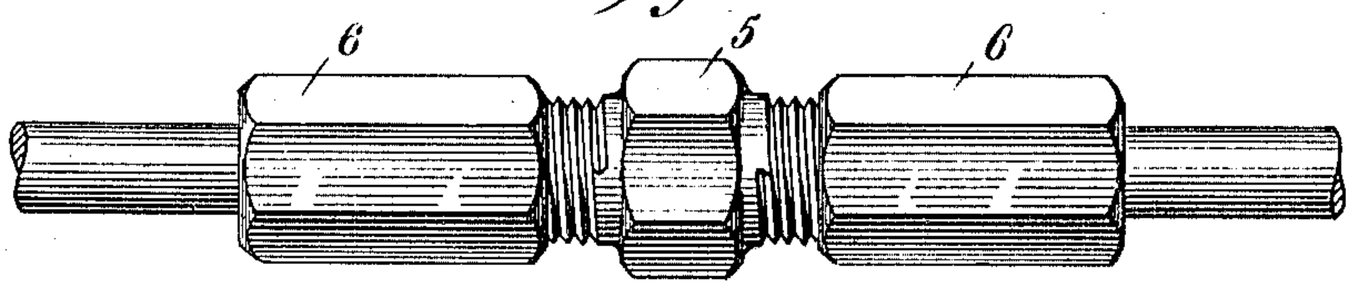

Fig. 2.

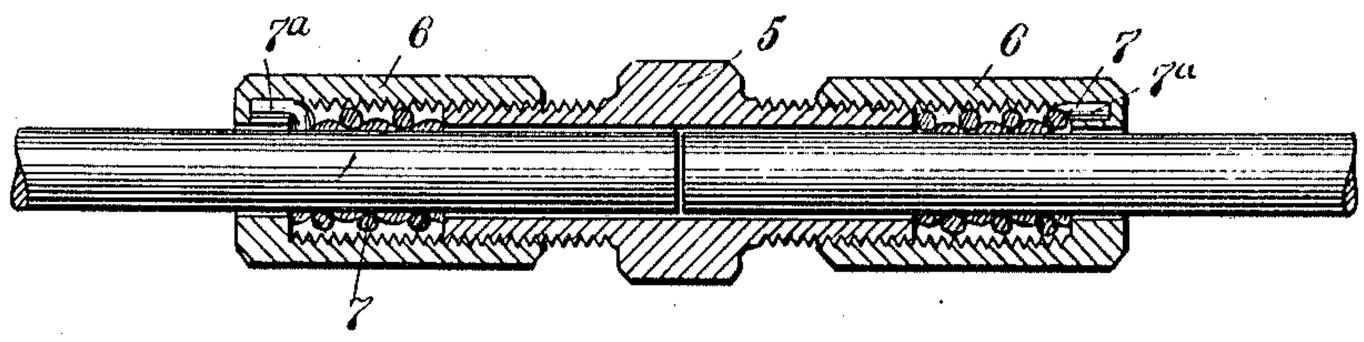

Fig. 3

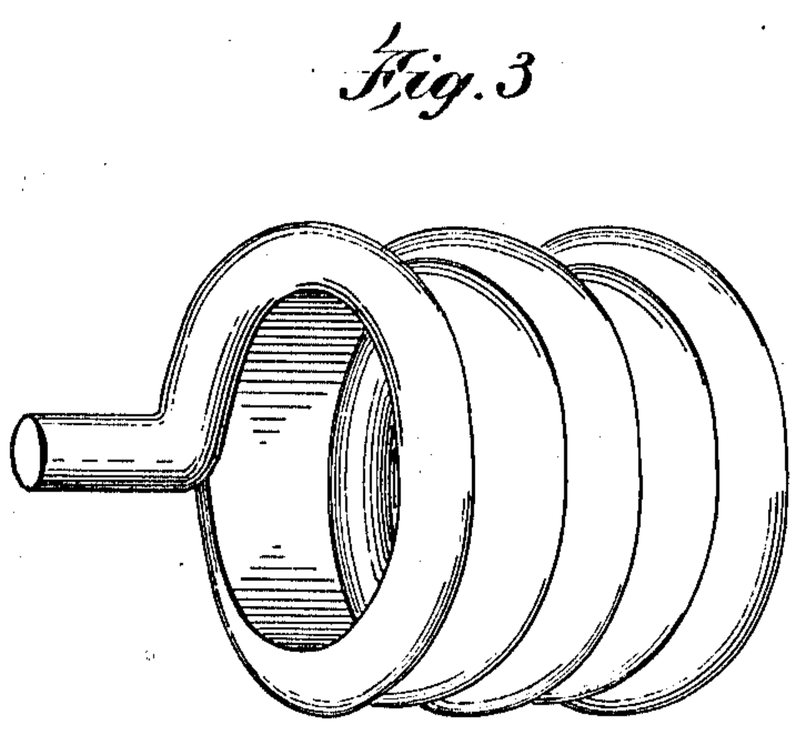

Fig. 4

WITNESSES

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CONDUCTOR-SPLICER.

978,630. Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed May 3, 1910. Serial No. 559,088.

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM OETTGEN, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Conductor-Splicer, of which the following is a full, clear, and exact description.

The invention is an improvement in conductor and other wire splicers, and has in view such a device embodying a helically-wound spring member adapted to receive the conductor, and a device having screw-threaded parts associated with the spring member to bind the latter about the wire when the parts of the device are threaded together, the spring member being preferably constructed with convolutions having inclined or cam outer faces upon which the adjacent convolutions of the member are adapted to ride.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a conductor splicer constructed in accordance with my invention, the splicer being shown applied to the conductor; Fig. 2 is a similar view of the splicer in longitudinal central section; Fig. 3 is a perspective view of a helically-wound spring member embodied in the construction of the splicer; and Fig. 4 is a plane development of a portion of the spring as viewed from the inner side.

The splicer as preferably constructed consists of a nipple 5, nuts 6, and helically-wound spring members 7, all of which have bores of a size to freely receive the end portions of the conductor to be spliced, which end portions are passed into the opposite ends of the splicer, as shown in Figs. 1 and 2, the nuts being counterbored from their inner ends for the greater portion of their length to thread over the ends of the nipple and provide sufficient space to each receive and incase one of the helically-wound spring members 7, the latter being shown to be interposed between the end of the nipple and the inner shoulder of the nut formed by the counterboring, and having its outer end 7^a outwardly-turned or offset and projecting into a corresponding recess formed in this end of the nut. The spring members 7 are made of spring wire of the character shown in Fig. 4, the same consisting of alternate round and flattened portions, each of a length to form a complete convolution of the spring members, the flattened portions being flattened on one side only, which is presented to the inside of the spring, with the opposite and outer side or face inclined or rounded, so that when the spring member is subjected to endwise compression the round convolutions ride up on the rounding or inclined faces of the intermediate convolutions and contract the latter in internal diameter. Thus, when the nuts 6 are loosened the internal diameters of the spring members are such that the splicer may be readily applied to the end portions of the conductor or wire, and when the nuts are tightened on the nipple, with the conductor in place, the inner portion of each spring member is pressed from the nipple, which causes the inner flattened convolutions to bind on the conductor first sufficiently to prevent the spring from turning throughout its length on the conductor so that the spring is wound up and drawn tightly about the conductor as the turning of the nut is continued. The farther the nut is screwed on the nipple the closer the convolutions of the spring member are forced together and the firmer the flattened convolutions are pressed to the conductor by reason of the round convolutions being displaced and riding over them. After the spring members have been tightened sufficiently, the two ends of the conductor are securely and electrically connected, and any strain tending to separate them causes the spring members to grip all the tighter, since the round convolutions of each spring member are engaged by the threads of the nut and tend to remain stationary relatively thereto, whereas the flattened convolutions tend to move with the conductor and pass farther under the round convolutions.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a wire splicer, a helically-wound member through which the wires are adapted to pass, and means to wind up the said member to bind it about the wire.

2. In a wire splicer, a helically-wound member through which the wires are adapted to pass, with certain convolutions of the member constructed to present inclined outer faces upon which the adjacent convo-

lutions of the member are adapted to ride when the member is subjected to endwise compression, and means to compress the member and bind the inclined face convolutions about the wire.

3. In a wire splicer, a helically-wound member through which the wires are adapted to pass, having convolutions over which adjacent convolutions are adapted to ride when the member is subjected to endwise compression, and a device into which the conductor is adapted to pass, having screw-threaded parts between which the member is interposed.

4. In a wire splicer, a helically-wound spring member through which the wire is adapted to pass, having the alternate convolutions constructed to pass under the adjacent convolutions when the member is subjected to end compression.

5. In a wire splicer, a helically-wound spring member through which the wire is adapted to pass, with the alternate convolutions of the said member flattened on their inner faces to bear on the wire, and the outer faces thereof constructed to wedge under the adjacent convolutions.

6. In a wire splicer, a nipple, nuts threaded on the opposite ends of the nipple, the nipple and nuts having a bore to receive the opposite end portions of the wire to be spliced, and helically-wound spring members through which the end portions of the wire are adapted to pass, each interposed between one of the nuts and the adjacent end of the nipple, and constructed to tighten about the end portions of the wire by the screwing of the nuts onto the nipple.

7. In a wire splicer, a helically wound spring member through which the wire is adapted to pass, a device adapted to receive the wire, composed of parts threaded together, between which the said member is interposed and adapted to be bound about the wire when compressed by said parts.

8. In a wire splicer, a series of spring windings through which the wire is adapted to pass, arranged in two sets, with the windings of one set arranged between the windings of the other set and constructed to wedge thereunder when the windings are compressed, and means to compress the windings on the wire.

9. In a wire splicer, a series of spring windings through which the wire is adapted to pass, arranged in two sets, with the windings of one set alternating with the windings of the other set and constructed to ride thereupon when the windings are compressed, a nut constructed to receive the wire and in which the spring windings are located, and a device threaded into the nut to compress the spring windings.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK WILLIAM OETTGEN.

Witnesses:

JULIUS NOLTE,

JOHN G. FRANZ.