

J. J. DOSSERT.  
COUPLING FOR ELECTRIC CABLES.  
APPLICATION FILED JULY 16, 1903.

Fig.1

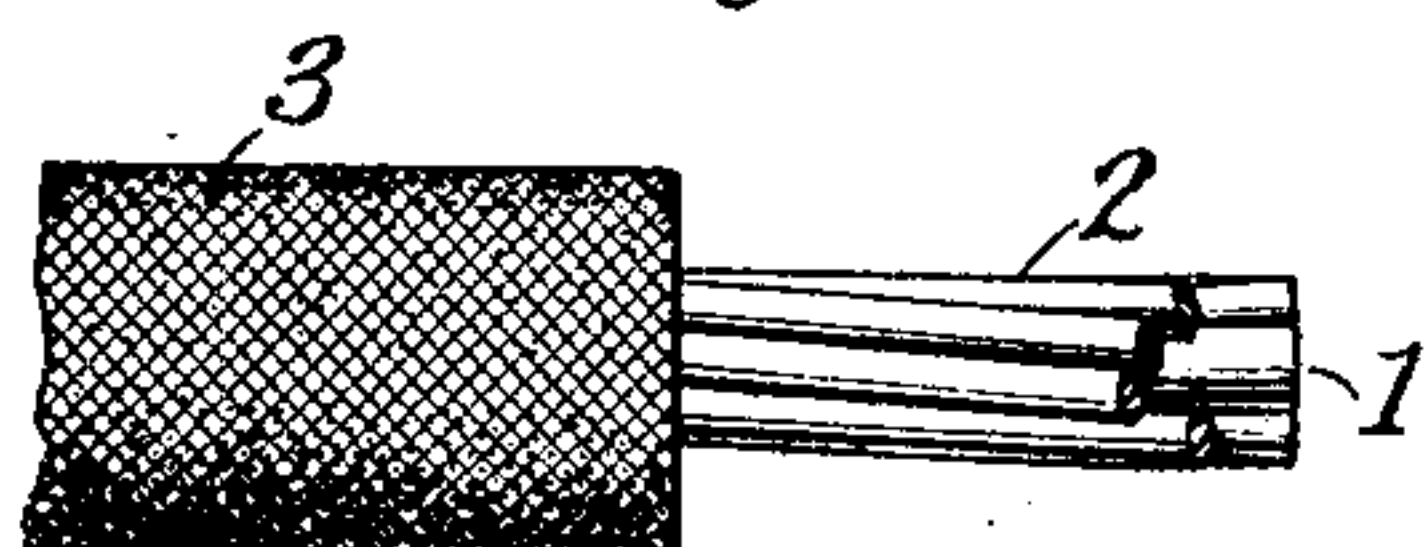


Fig.2

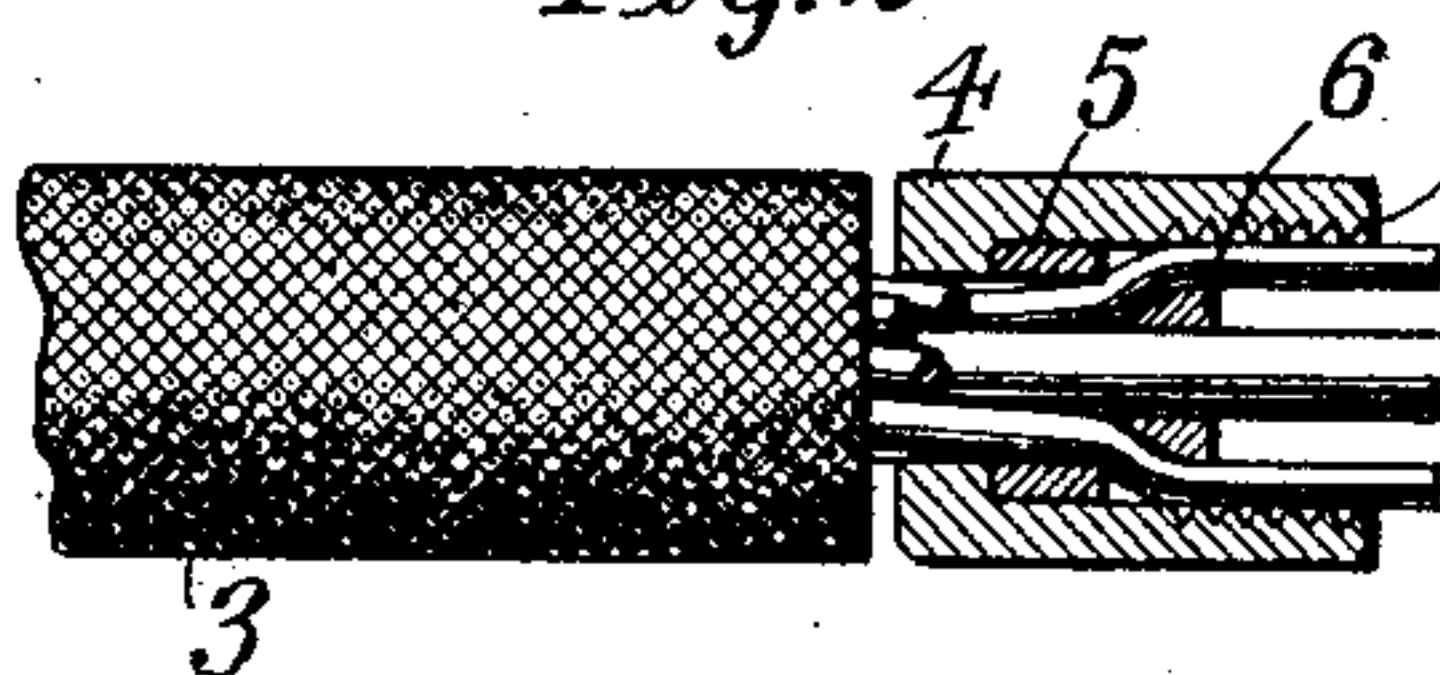


Fig.3

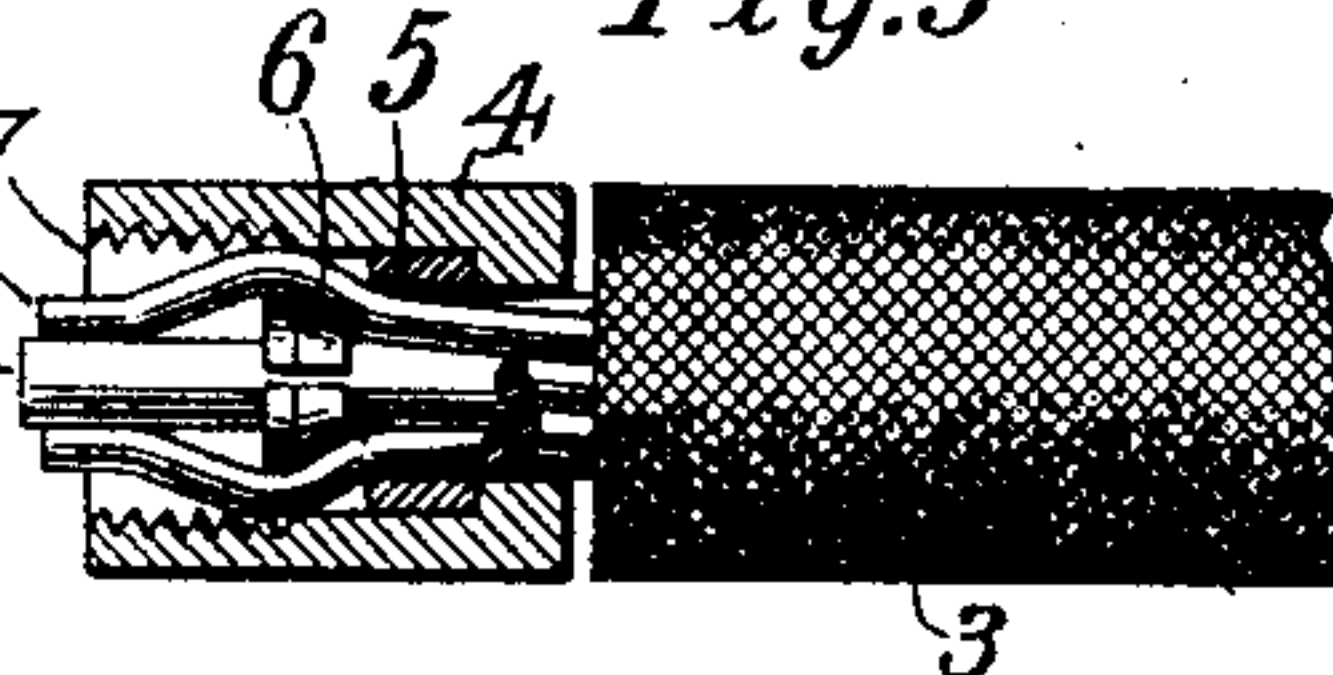


Fig.4

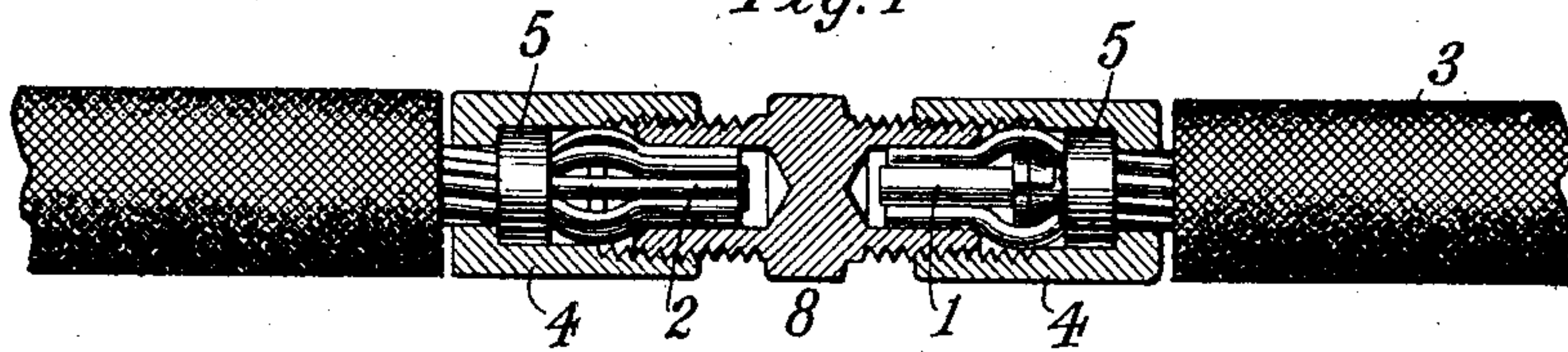


Fig.5

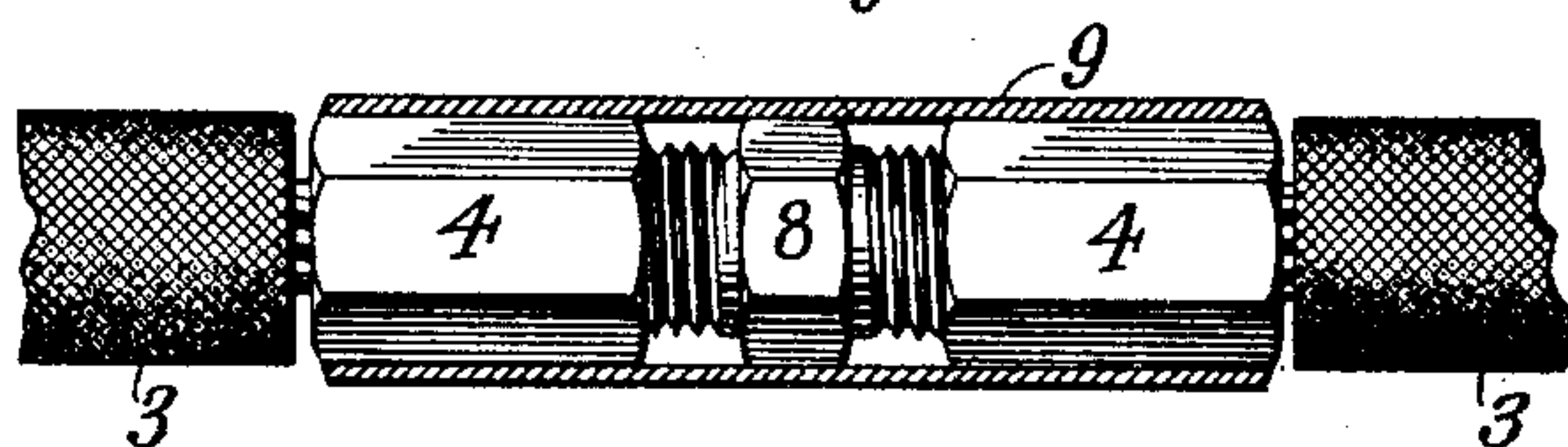


Fig.6

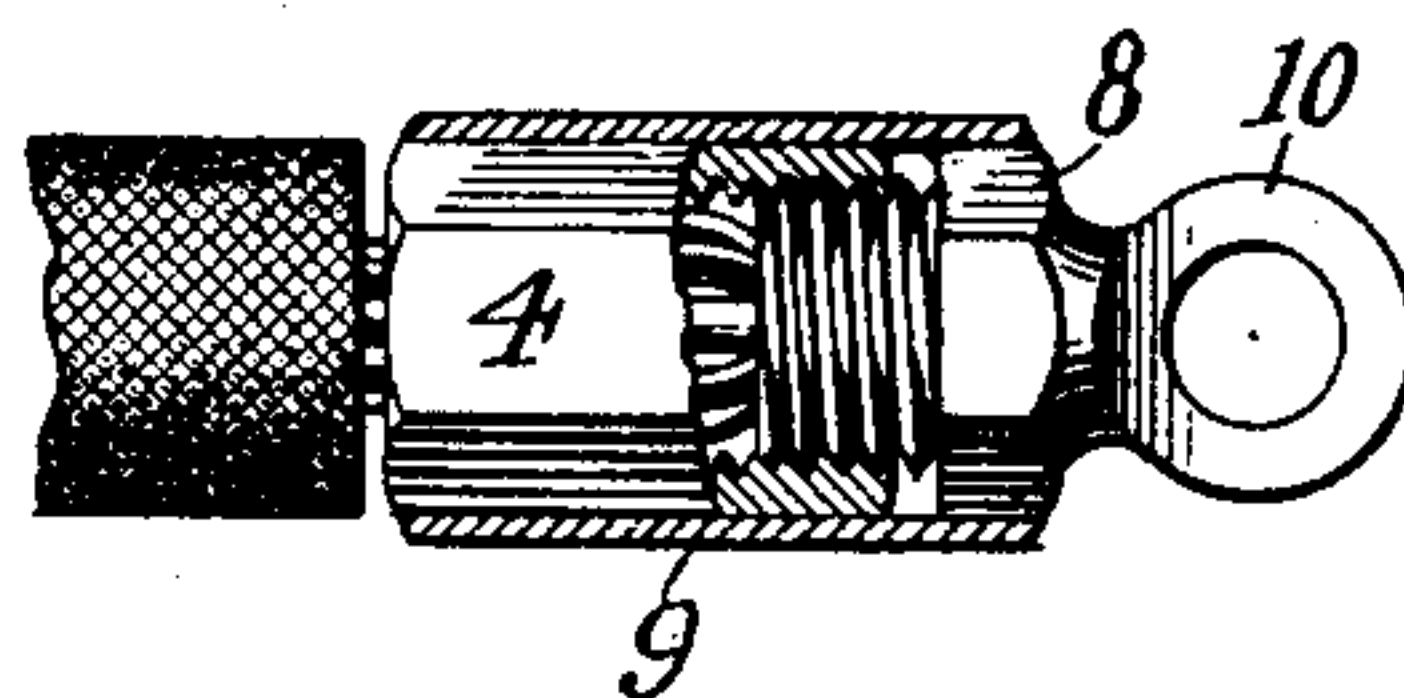


Fig.7

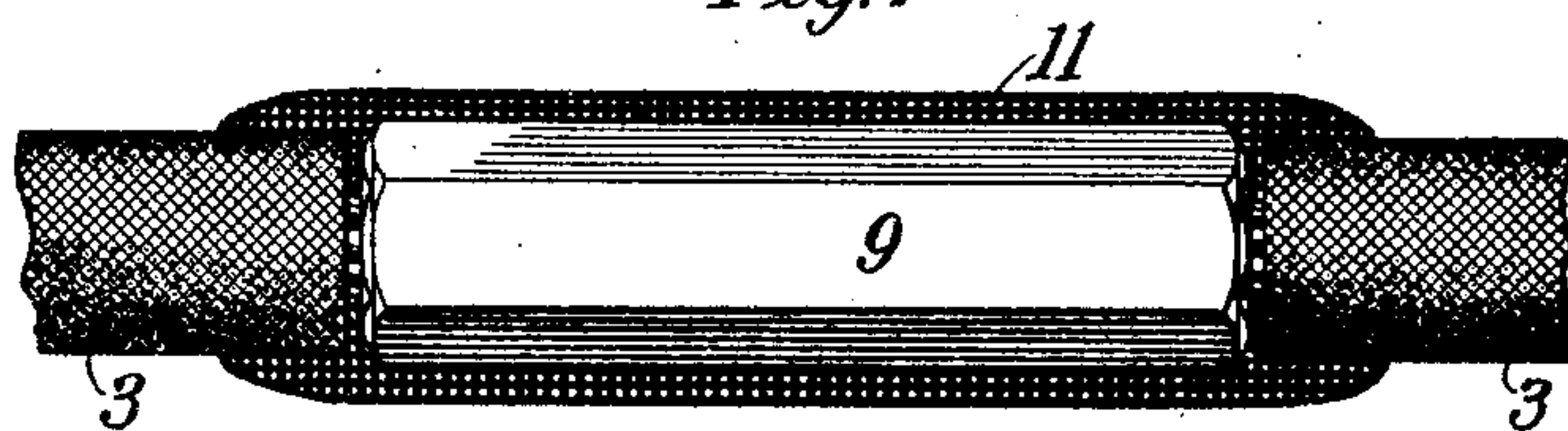
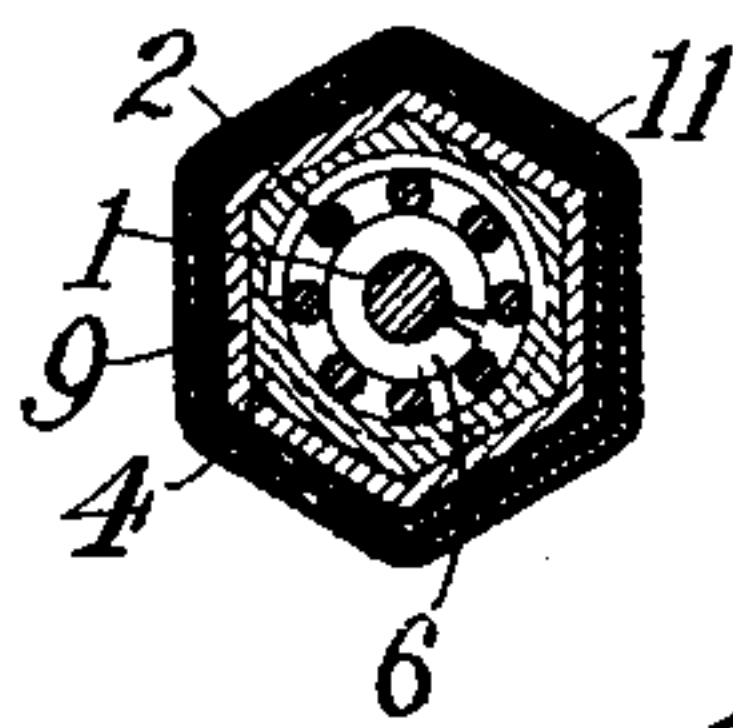


Fig.8



Witnesses:

Raphaël Fetter

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Inventor

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by Eugene H. Lockman, Atty



# UNITED STATES PATENT OFFICE.

JOHN J. DOSSERT, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO DOSSERT & COMPANY, A CORPORATION OF NEW YORK.

## COUPLING FOR ELECTRIC CABLES.

SPECIFICATION forming part of Letters Patent No. 779,469, dated January 10, 1905.

Application filed July 16, 1903. Serial No. 165,794.

*To all whom it may concern:*

Be it known that I, JOHN J. DOSSERT, a citizen of the United States, and a resident of New York, county of New York, State of New York, have invented certain new and useful Improvements in Couplings for Electric Cables, of which the following is a specification.

My invention relates to improvements in couplings for electric cables; and its object is to provide a simple, compact, strong, and efficient coupling capable of being easily handled and adjusted, affording good electrical connection and being little liable to get out of order. Incidentally I provide means whereby the coupling can be easily locked in position, so that no needless twisting of the cable at the coupling may take place. It is also easy to insulate the joint made by my coupling by simply wrapping it with tape or other insulating material, whereby the joint is protected, as well as the rest of the cable.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a cable to which my coupling may be applied. Figs. 2, 3, 4, 5, 6, and 7 are partly-sectional views of a cable with my coupling applied wholly or in part thereto, and Fig. 8 is a cross-section of a completed joint.

In the drawings, 1 represents the central wire of a cable, and 2 the strands surrounding the central wire.

3 represents an insulating-covering for the cable.

In Fig. 1 the various strands 2 2 are grouped closely around the central wire or conductor, and in Fig. 2 these strands are represented as having been spread out by means of any convenient tool or device. Before spreading the strands in the manner indicated one part, 4, of my coupling, together with a solid ring 5, held within the part 4, is placed over the entire group of wires, and after the spreading takes place, as above indicated, a split ring 6 is forced in between the central wire and the strands 2, as clearly shown in the second figure of the drawings. It will be understood

that before this operation a portion of the cable is laid bare of its insulation, as indicated in Fig. 1.

The part 4 of the coupling is internally shouldered, so as to prevent the slipping through of the solid ring 5, and at the opposite end of the ring 4 is an internal screw-thread, (shown at 7.) The next step in the operation consists in pressing the free ends of the strands 2 down into contact with the central wire or conductor 1, as indicated in Fig. 3. The said figure does not show the same end of the cable as that illustrated in Fig. 2, but illustrates the end of the cable which is to be coupled with that shown in Fig. 2. It is sufficient, however, to illustrate the succeeding steps in the operation. This end of the cable also has a coupling-section 4, a solid ring 5, a split ring 6, and an internal screw-thread 7.

The element 8, which joins the two ends of the cable, is illustrated in section in Fig. 4. This consists of a coupling-piece having external screw-threads adapted to engage with the screw-threads 7 7 and being hollow to receive the cable with its strands, as shown. The external portions of the coupling-piece are shown in Fig. 5 as of hexagonal form, surrounded by a hollow locking-piece 9, adapted to fit over the hexagons and lock the coupling in place.

In Fig. 6 I show an end piece 10, suited for attachment to any convenient support. The locking device 9 is present, as before, and the general form of the coupling is the same, although the part 8 has only one screw-thread for connecting with one end of the cable instead of two, as before.

Fig. 7 shows the complete coupling with a section of insulating material 11 covering the same.

The sectional illustration constituting Fig. 8 will be clearly understood by reference to the indicating characters applied thereto in connection with the foregoing description.

It is obvious that various modifications of the construction shown might be made with-



out departing from the principle of the present invention. For example, the particular character of the core of the cable, whether it be a single central wire or a group of wires, is a matter of indifference.

When the split ring is forced home, as indicated, good electrical connection will be made between it and all the strands as well as with the central wire or core. Moreover, after the strands have been forced down into the position illustrated in Fig. 3 there will always be spring enough in the side wires to force them into good electrical contact with the central coupling-piece 8 when that is screwed into place. By the means described good electrical continuity and great tensional strength can be secured. The greater the strain first put upon the cable the more the parts of the coupling will bind, and there is no more danger of the cable parting at the coupling than there is at any intermediate point. In fact, any strong pull upon the coupling will only bind the parts more closely together at the coupling and strengthen the coupling at that point.

Owing to the small size which can be given to the coupling, as indicated, the winding of the insulating-tape around the coupling, as shown in Fig. 7, need not make an unsightly joint.

One of the functions of the collar 5 is to permit a free rotation of a coupling-section upon one end of the cable during the process of attaching the section to the cable end, thereby permitting the easy handling of the parts during coupling. If the collar 5 is once in place, it serves as a bearing between the internal shoulder on part 4 of the cable and the bulge in the strands of the cable. In the complete structure the collar 5 is not intended to rotate. The collar 6 is preferably made as a split ring or collar in order that when pressure is applied to the ends of the strands in compressing them into shape for permitting the central coupling to pass over these ends the collar may contract as much as is necessary in order to make good electrical connection between the strands and the core through the collar itself. It is also true, of course, that the split collar has the further function of serving as a form on which the bulging of the strands is made for preventing the withdrawal of the terminal section of the coupling.

In practice I have found that the split collar serves as a means for binding the strands so as to prevent the withdrawal of the coupling ends, even in cases where the strands are not bent over at the outer free ends, as shown in the drawings. For this reason when I speak of the "bulging" formed by the split collar I do not wish to be necessarily understood as referring to a double curve in the strands, but the word may refer simply to the formation

of a slope on one side of the split ring for preventing the withdrawal of the coupling.

I claim as my invention—

1. The combination with the stranded end of an electric cable having a core, of a coupling-section surrounding the said end, and a collar between the core and the strands for bulging the latter, the said coupling-section being provided with retaining means beyond the bulging part of the strands.

2. The combination with the stranded end of an electric cable having a core, of a coupling-section surrounding the said end, and a collar between the core and the strands for bulging the latter, the said coupling-section being provided with a retaining-flange at its outer end.

3. The combination with the stranded end of an electric cable having a core, of a coupling-section surrounding the said end, and a compressible collar between the core and the strands for bulging the latter to prevent the removal of the coupling-section, the said coupling-section being provided with retaining means beyond the bulging portion of the strands.

4. The combination with the stranded end of an electric cable having a core, of a coupling-section surrounding the said end, and a compressible collar between the core and the strands for bulging the latter to prevent the removal of the coupling-section, the said coupling-section being provided with a retaining-flange at its outer end.

5. The combination with the end of an electric cable, of a core therefor, strands surrounding the core, a split collar between the core and the strands, a coupling-section surrounding the strands and having a retaining-flange at its outer end, whereby good electrical connection can be made between the collar and the strands on the one hand, and the collar and the core on the other, and whereby also the coupling-section is held from removal.

6. The combination with the end of an electric cable, of a core, strands surrounding the core, a coupling-section surrounding the strands, and having a retaining-flange at its outer end, and means for bulging the strands inside the coupling-section, such means consisting of a split ring or collar, whereby when the strands are shaped into the bulging form, the split ring or collar will form good electrical connection both with the core and the strands and will also prevent the withdrawal of the coupling-section.

7. A coupling for electric cables, consisting of a pair of end coupling-sections internally screw-threaded at their adjacent ends, an intermediate coupling device engaging with the sections, in combination with a stranded cable and a core therefor, means for causing a bulging of the strands between the end sections and the intermediate section, and retain-



ing means beyond the bulging portions of the strands for engaging therewith, whereby the withdrawal of the ends of the cable is prevented.

5 8. The combination with the stranded end of an electric cable, of a coupling-section surrounding the strands and having an internally-directed flange at its outer end, a rigid collar within the said section, also surrounding the  
10 strands, and a compressible collar inside the strands for causing a bulging thereof, whereby the coupling-section and the collar are held from withdrawal.

15 9. The combination with the adjacent stranded ends of two sections of electric cable, of cores for the said cable, coupling-sections surrounding the said ends, an intermediate coupling device uniting the said coupling-sections, the said intermediate device and the said sections being provided with screw-threads, the  
20 screw-threads of the end coupling-sections being near the inner end thereof, means for causing a bulging of the strands between the end sections and the intermediate section, retaining means impinging against the bulging portions of the strands to prevent the separation  
25 of the parts, the surface of the several sections of the coupling being angular, and a lock for the said sections consisting of a tube adapted to surround the same and having corresponding  
30 angles on its internal surface having the same diameter throughout its length.

10. The combination with the stranded end of an electric cable, of a core in said cable, a  
35 coupling-section surrounding the said end, a compressible collar for bulging the strands, a retaining device for the said coupling-section, and a hollow cooperating coupling device adapted to receive the extremities of the  
40 strands.

11. The combination with the stranded end of an electric cable, and a core for the said cable, of a coupling-section surrounding the

said end, a compressible collar for bulging the strands, a retaining device for said coupling- 45 section, and a hollow coupling device for receiving the extremities of the strands, the interior of the said cooperating coupling device being angular in shape.

12. The stranded end of an electric cable 50 having a core, of a coupling-section surrounding the said end, a compressible collar between the core and the strands for bulging the latter to prevent the removal of the coupling-section, in combination with a similar structure ar- 55 ranged end to end with the foregoing, means for coupling the said ends together, the surfaces of the several sections of the coupling being angular, and a lock for the said sections consisting of a tube having the same diameter 60 throughout its length and adapted to surround the said sections and having corresponding angles on its internal surface.

13. The combination with two coupling elements having angular surfaces, the stranded 65 end of an electric cable having a core, and means for connecting at least one of the coupling elements with the said stranded end, the said coupling elements surrounding the said end and having retaining-flanges at their outer 70 ends, and a compressible collar between the core and the strands for bulging the latter to prevent the removal of the coupling elements, and a lock for the said coupling elements consisting of a tube having the same diameter 75 throughout its length and adapted to surround the said elements and having on its inner surface angles corresponding to the angular outer surface of the said elements.

Signed at New York, in the county of New 80 York and State of New York, this 14th day of July, A. D. 1903.

JOHN J. DOSSERT.

Witnesses:

GEORGE H. STOCKBRIDGE,  
WM. H. CAPEL.