June 14, 1960 A. L. STOECKEL 2,941,029

PREFORMED TIE FOR FASTENING A LINE WIRE TO AN INSULATOR

Filed Aug. 17, 1956 2 Sheets-Sheet 1

FIG. 1.

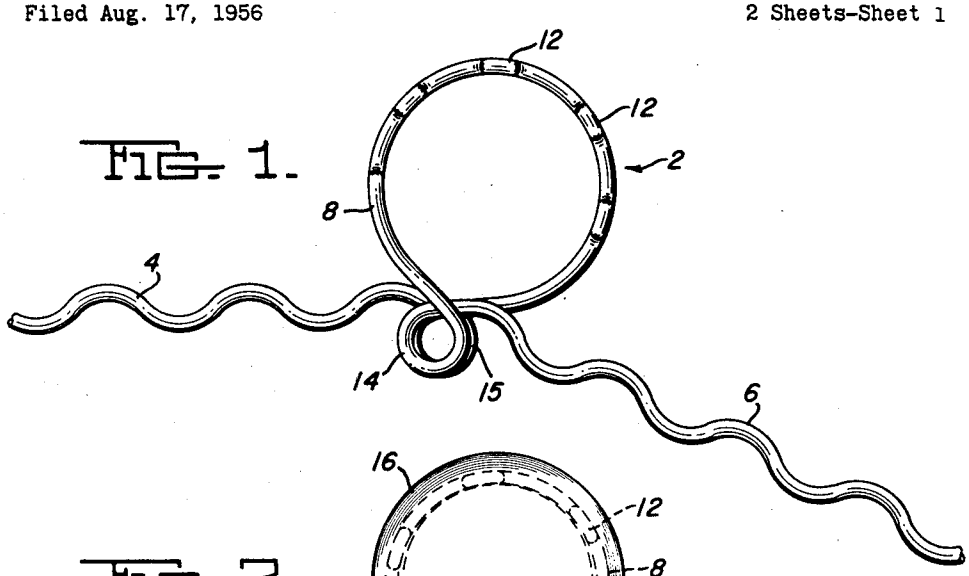


FIG. 2.

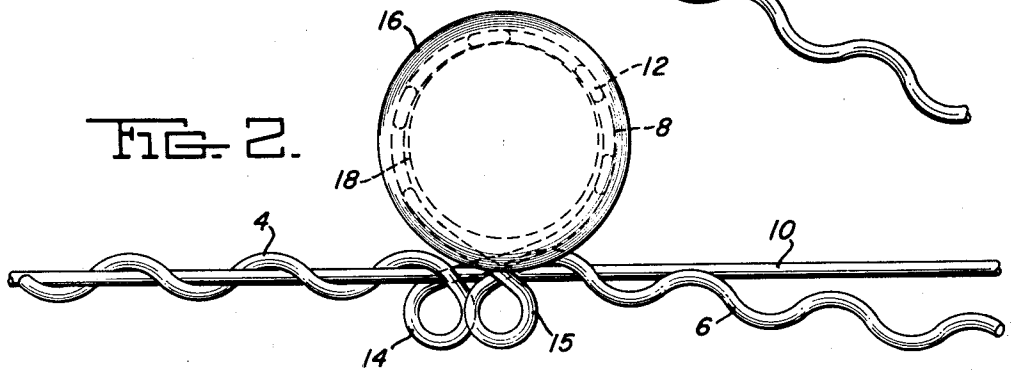


FIG. 3.

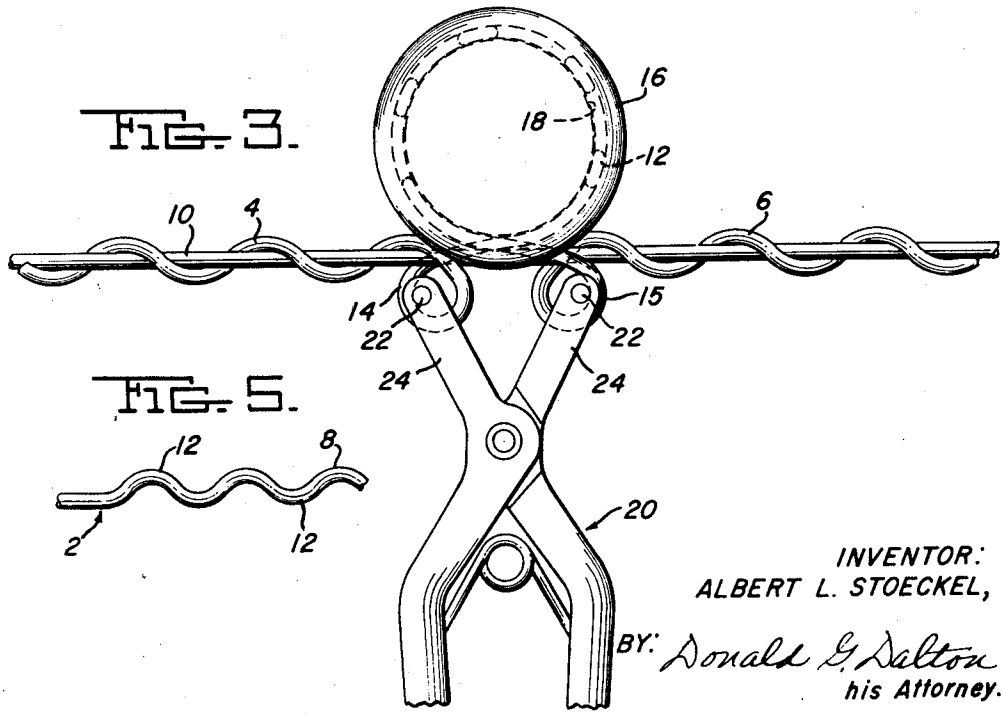


FIG. 5.

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June 14, 1960 A. L. STOECKEL 2,941,029

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Filed Aug. 17, 1956 2 Sheets-Sheet 2

FIG. 4.

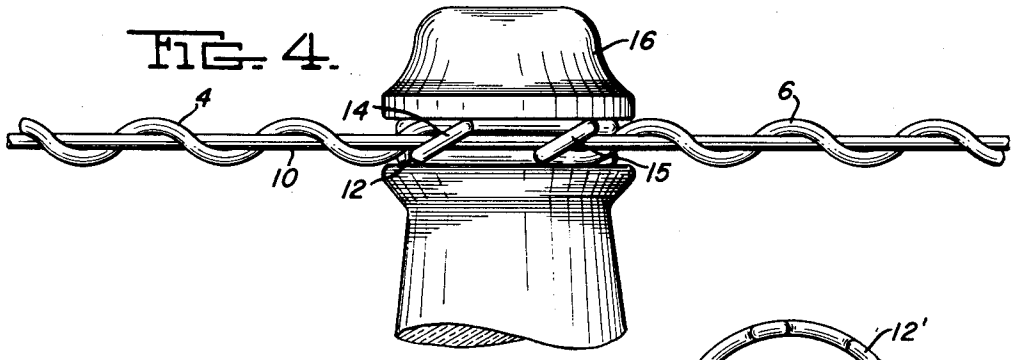


FIG. 6.

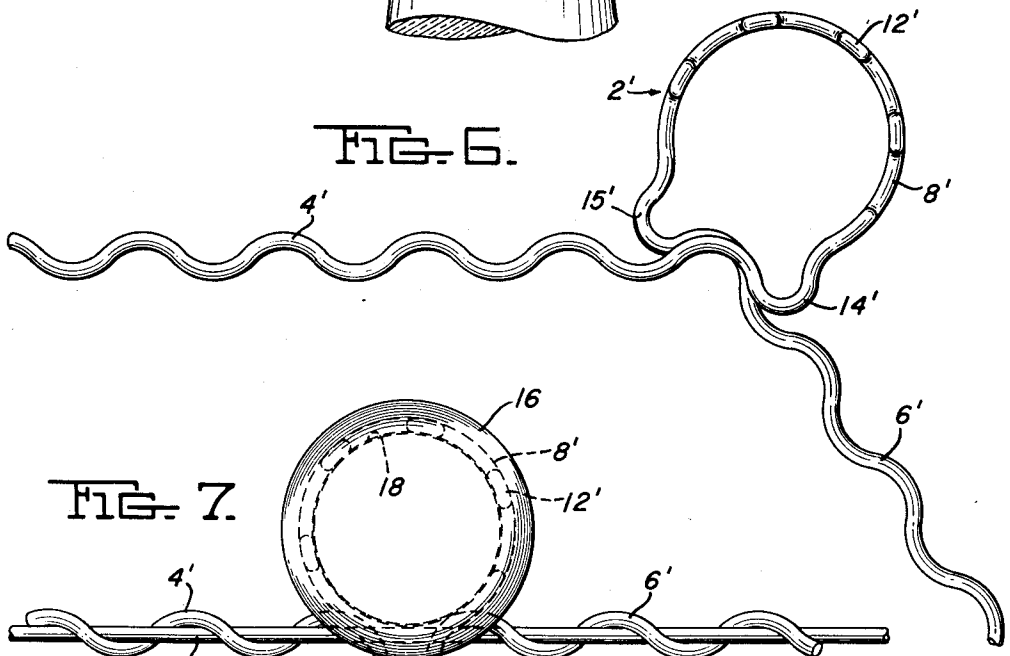
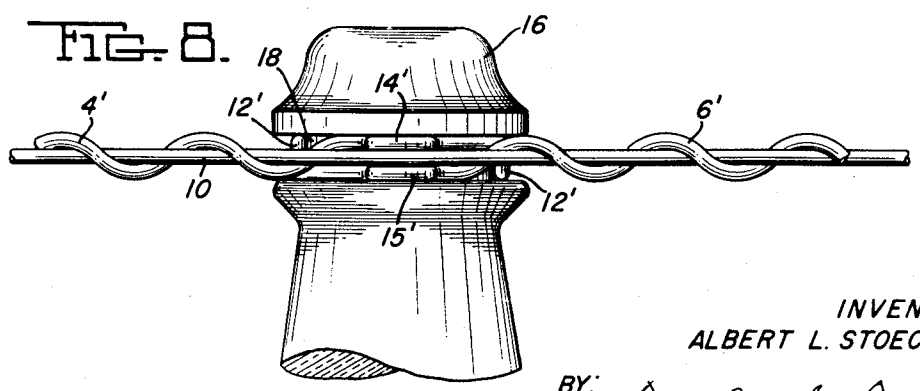


FIG. 7.

FIG. 8.



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United States Patent Office 2,941,029 Patented June 14, 1960

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PREFORMED TIE FOR FASTENING A LINE WIRE TO AN INSULATOR

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Filed Aug. 17, 1956, Ser. No. 604,657

1 Claim. (Cl. 174—173)

This invention relates to a preformed tie for fastening a line wire to an insulator and more particularly to such a tie including means for reducing the vibration of the suspended line wire or strand. Most ties in common use require the use of tools for forming the tie and connecting the line wire to the insulator in the field. For this reason considerable time is required in making the connection and there is no assurance that the connections will be uniform in strength and/or appearance. The cost of installation is high because of the forming necessary in the field. A suitable tie for this purpose is shown in the application of Knight and Melville, Serial No. 592,977, filed June 21, 1956. However, the tie shown therein is formed in two pieces which adds to the cost and increases danger of losing one of the pieces.

It is therefore an object of my invention to provide an inexpensive preformed tie made of a single wire.

This and other objects will be more apparent after referring to the following specification and attached drawings, in which:

Figure 1 is a plan view of the preformed tie of my invention prior to installation;

Figure 2 is a plan view of the tie being installed on the line wire and insulator;

Figure 3 is a plan view of the tie after installation with the installing tool in place;

Figure 4 is a front elevation of the installed tie;

Figure 5 is a developed vertical view of the central portion of the tie;

Figure 6 is a view, similar to Figure 1, showing a second embodiment of my invention;

Figure 7 is a plan view of the installed tie of Figure 6; and

Figure 8 is a front elevation of the installed tie of Figure 6.

Referring more particularly to Figures 1 to 5 of the drawings, reference numeral **2** indicates the tie wire of my invention. The tie wire **2** has end portions **4** and **6** which are located at each side of a central generally circular portion **8**. The end portions **4** and **6** are provided with helices as shown, the inside diameter of which is less than the outside diameter of line wire **10**. The central portion **8** has corrugations **12** therein which extend generally perpendicular to the plane of the tie wire as best shown in Figure 5. In most instances this will be in a vertical direction. Bends **14** and **15** are provided one at each end of the central portion **8**. As shown the bends are in a plane generally perpendicular to the corrugations and are in the form of closed loops.

The tie is assembled as follows:

The central portion **8** of the wire **2** is passed over insulator **16** in groove **18** so that the end portion **4** is parallel to the line wire **10** and the loops **14** and **15** are facing the operator. The end portion **4** is then wrapped

around the line wire **10** starting at the spiral near the loop **14** and continuing to the end in a right hand rotation until it assumes the position of Figure 2. The operator holding the end portion **4** in one hand grips the end portion **6** and makes one wrap around the line wire **10** in a right hand rotation starting near the loop **15**. A spreading tool **20** having pins **22** on each jaw **24** is then used to tighten the wire tie **2** around the insulator. This is done by inserting the pins **22** in the loops **14** and **15** and moving them apart to the position shown in Figure 3. The end portion **6** is then wrapped around the line wire **10** after which the tool **20** is removed.

Figures 6 to 8 show a tie wire **2'** which is of the same general construction as the first embodiment so that like parts will be indicated by priming the reference numerals of the first embodiment. The principal difference between the two embodiments is that the bends **14'** and **15'** at the end of the central portion **8'** are not closed loops. The assembly of this tie is similar to that of the tie of Figure 1. However, no special tool **20** is used but the portion **8'** is tightened around the insulator by inserting the flattened end of a screw driver in the horizontal bends **14'** and **15'** and twisting it to the left in a direction parallel to the line wire **10**. This causes the twisted ends of the tie wire to be pushed away from the insulator **16** and to slide on the line wire **10**. When the tool is released the twisted tie wire ends will automatically tighten about the line wire and maintain the grip about the insulator **16**.

In each embodiment the wire tie is formed of resilient or spring-like material such as steel and the vertical corrugations provide the necessary circumferential stretch to maintain a tight grip on the insulator. It will also be understood that the ties may be installed in a manner and with tools other than those described above.

While two embodiments of my invention have been shown and described it will be apparent that other adaptations and modifications may be made without departing from the scope of the following claim.

I claim:

The combination including an insulator having a circumferential groove therein, a line wire arranged generally tangential to said insulator at said groove, and a preformed tie formed of a single spring-like wire, said tie having two end portions and a central generally circular portion, said end portions having helices therein surrounding said line wire, the inside diameter of the formed helices being less than the diameter of the line wire so as to grasp the line wire firmly, said central portion surrounding said insulator in said groove and having corrugations therein extending generally parallel to the axis of the insulator, a bend between each end of the central portion and the adjacent end portion, each bend extending to the opposite side of said line wire from said insulator, said bends having tool engaging portions in general parallelism with said line wire, each of said bends being in a plane generally perpendicular to the corrugations.

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