

April 25, 1933.

E. ST. JOHN ET AL

1,905,761

CABLE SUSPENSION

Filed May 29, 1930

2 Sheets-Sheet 1

FIG. 1.

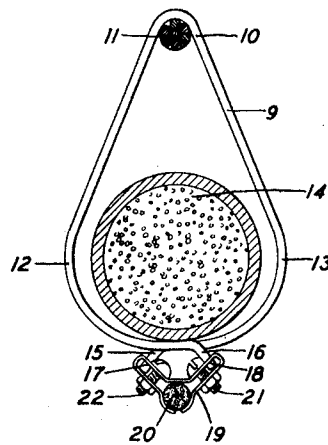


FIG. 2.

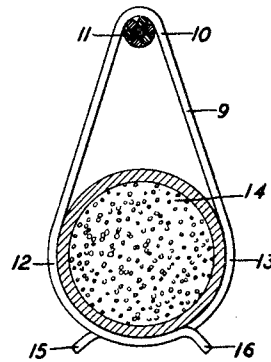
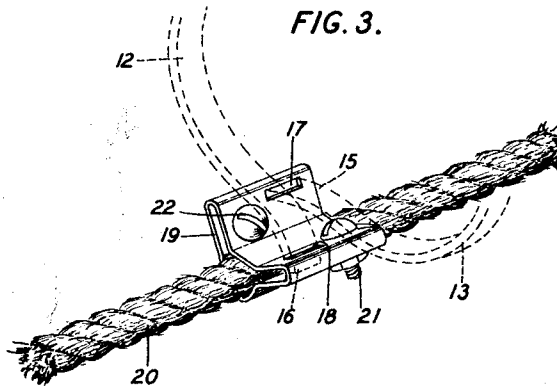


FIG. 3.



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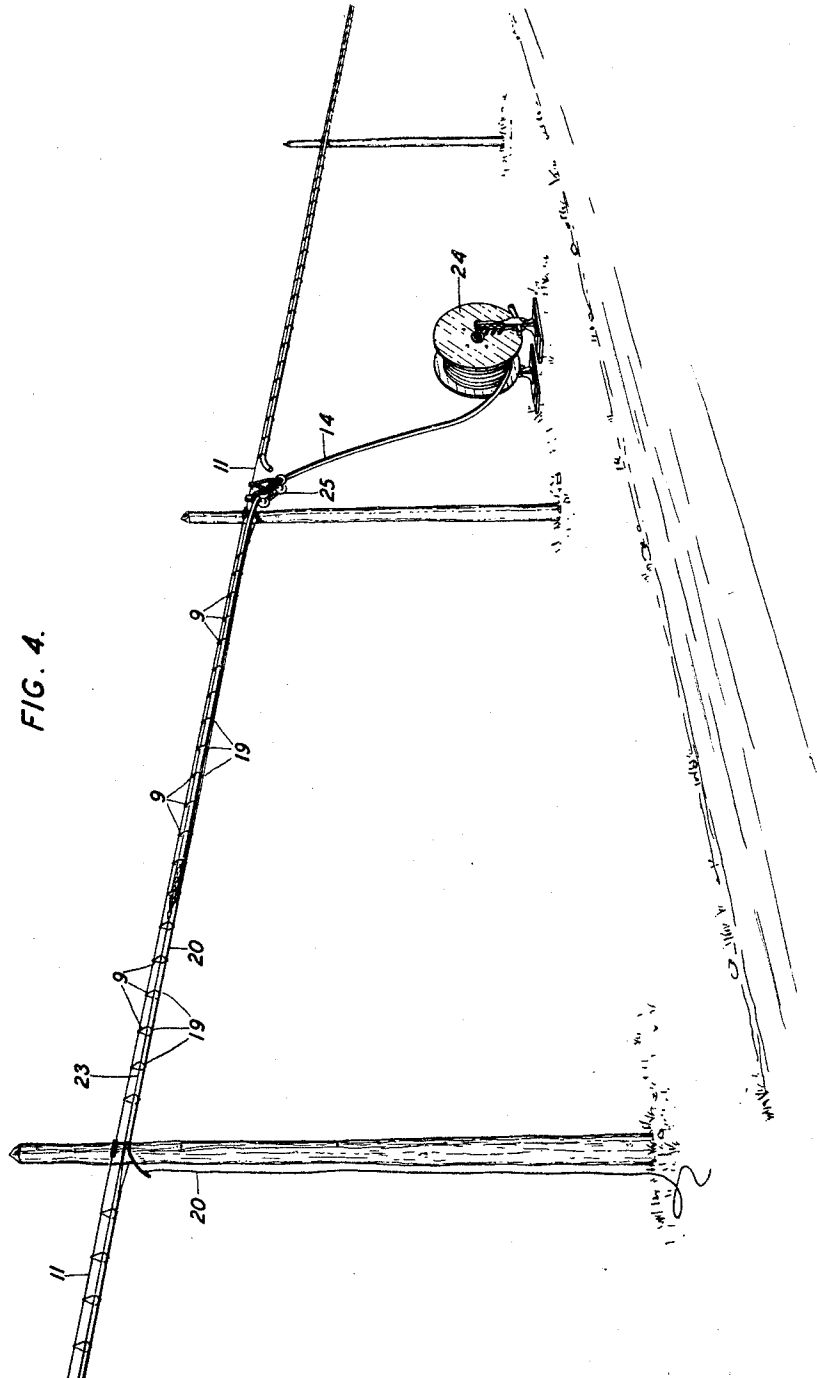
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FIG. 4.



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UNITED STATES PATENT OFFICE

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CABLE SUSPENSION

Application filed May 29, 1930. Serial No. 456,986.

This invention relates to a support for aerial cables and more particularly to rings for supporting a sheathed multiple conductor from a messenger or supporting strand.

5 The object of this invention is to provide an improved cable ring which will not only be strong and durable but will effect a saving in the cost of manufacture and installation.

10 A further object of this invention is to provide a ring which will support cables having a sheath of some soft material such as lead antimony, in such a manner that the wear on the sheath is reduced to a minimum.

15 A further object of the invention is to provide a ring which due to its own spring action will securely hold the cable in position and prevent it from turning or shifting, thereby eliminating the wear at this point.

20 A further object of the invention is to provide a ring in which the friction, due to the swinging of the cable, is exerted between two materials of similar hardness.

25 A still further object of the invention is an improved method of installing aerial cable which utilizes the rings of this invention.

Heretofore it has been common practice in the supporting of aerial cable to provide a ring which was rigidly secured to the messenger strand, the free ends of the ring being provided with hook members which grip the messenger strand very securely with the loop or ring portion projected in a downwardly direction, the diameter of the loop or ring portion being sufficiently large to allow the lead covered cable to be drawn through and be free to rotate or move in the ring. It has been found that the life of such cable has been materially lessened due to the wearing of the sheath at the point where the cable rests on the ring due to the movement of the cable and the fact that the sheath is soft and the ring hard.

30 With this inherent fault in mind, the applicants have devised a cable ring which firmly grips the cable sheath and is free to move on the messenger or supporting strand thereby putting the friction between materials of a similar hardness, namely, the strand and the cable ring. By this construction there is practically no wear on the sheath itself due

the ring being firmly held in place by its own spring action, which of course, can be determined when the rings are manufactured.

In order to use this improved ring and to expedite the installation of aerial cable, applicants have devised a method of installation which is a radical departure from the now standard methods of installing cable and which eliminates the necessity of a man going along the strand to space and clamp the rings thereon. In this new method the lineman remains on the pole, slips the rings over the strand and into clamps which are spaced the proper distance on a hand line. These clamps spread the rings apart and hold them in an extended position. Another lineman located on an adjacent pole pulls the rings out on the strand. When a sufficient number of rings have been distributed on the messenger strand, the hand line with the clamps and their rings secured thereto is firmly fastened at each end. The cable is then pulled through the extended rings the proper distance. After this operation has been completed, the hand line is removed and the rings snapped into place on the cable sheath.

In accordance with the preferred form of the present invention the support or ring is constructed of a suitable material which will have sufficient resiliency to be spread apart and yet when closed around the cable will exert sufficient pressure to prevent the cable from moving in the ring. This ring is formed out of a single strip of metal of a suitable width to keep it from turning on the strand and is bent in the shape of a pear, the small or reduced part being of a suitable radius to fit over a messenger strand, the bottom of the ring or the large part comprising two legs which are slightly offset to allow them to lie side by side, and are so shaped to firmly grip the cable for which it is intended. The free ends of the ring are bent downwardly at approximately right angles and are arranged to be inserted in a clamping means which is designed to hold the ring in an open position while the cable is being pulled through. The clamps, a number of which are secured to a hand line one for each ring to be installed, may be of any suitable con-

struction, the one disclosed herein merely showing one design of clamp which has proven satisfactory.

When installing aerial cable in accordance with the applicants' invention it is not necessary for the lineman to go out on the strand to place the rings. He merely stays on the pole adjacent the messenger stand and slips the rings over the strand, inserting the ears or the free ends of the ring into the elongated slots in the clamp. Due to the clamps being securely fastened to the handline he does not have to bother about the proper spacing but keeps slipping the rings over the strand and into the clamps. While the lineman is performing this operation another lineman on an adjacent pole is pulling the handline towards him, this operation drawing the rings out over the strand in the proper position for the cable to be pulled through.

When a sufficient number of rings have been put in place on the strand both ends of the hand line are secured to the poles. This holds the rings rigidly in place. The cable to be installed is now pulled through the spread rings by means of a suitable line which is adjacent the messenger strand over which the rings were placed at the same time as the rings were placed over the strand. When the cable has been pulled through the desired distance the hand line with the clamps attached thereto is loosened, and the man on the ground releases the rings from the clamps by pulling down on the line, this removes the clamps from the rings and allows the rings to snap into position on the cable and securely hold it in position.

It can be readily observed that with the applicants' rings and the method of installing, not only will a great saving be effected in the course of installation, but it has been found that the life of the cable will be substantially increased over that of a cable which is loosely mounted in the rings in accordance with the present practice.

Referring now to the drawings:

Fig. 1 is a plan view of applicants' ring supporting a section of cable with a clamping means in position for holding the ring open;

Fig. 2 is a view similar to Fig. 1 except that the clamp has been removed thereby allowing the ring to assume its natural shape and thereby securely grip the cable sheath;

Fig. 3 is a perspective view illustrating a section of a hand line with a clamp secured thereto for holding applicants' ring in an open position; and

Fig. 4 is a perspective view of a pole line with a cable being installed in accordance with applicants' invention.

Referring now to Figs. 1 and 2, applicants' improved ring 9 is constructed out of a single piece of heavy metal preferably of flat stock, the loop or upper part 10 being bent on a radius substantially larger than that of the

supporting strand 11, the lower portion comprising the two legs 12 and 13 being so formed that they securely grip the cable 14 when it is in the position shown in Fig. 2. Located on the legs 12 and 13 are two bent portions or ears 15 and 16 which are arranged to be inserted in slots 17 and 18 of the clamp 19 as shown in Fig. 1 and Fig. 3 thus holding the legs 12 and 13 in an extended position so that the cable 14 may be easily drawn therethrough. The clamping member 19 disclosed in Fig. 3 is secured to the rope or hand line 20 by means of the screws 21 and 22.

In Fig. 4 the cable 14 is being pulled through the rings 9 by means of the line 23, the cable being fed from the reel 24 over the sheave block 25 into the rings 9 which are in their extended position inasmuch as the clamps 19 which are secured to the hand line 20 are still in place. When the cable 14 has been pulled through the desired distance a jerk on the hand line 20 will pull the clamp 19 off from the rings 9 thereby permitting the rings to assume their natural position around the cable 14 and securely hold it in place.

While there is shown herein and described the preferred form of the invention it is understood that it is not limited or confined to the precise details of construction herein disclosed, as modifications and variations may be made without departing from the spirit of the invention.

What is claimed is:

1. The method of installing cable and the like which comprises first placing a hand line or rope adjacent a supporting strand, placing the cable ring over both the supporting strand and the rope, inserting a portion of the cable ring in a holding means to hold the ring open, positioning the ring on a supporting strand, pulling the cable into the ring by means of the rope and then causing the ring to firmly grip the cable by removing the holding means.

2. The method of installing cable and the like which comprises first placing a hand line or rope adjacent a supporting strand, placing the cable rings over both the supporting strand and the rope, inserting a portion of the cable rings in holding means, which is secured to a second rope, to hold the rings open, positioning the rings on the supporting strand, pulling the cable into the rings by means of the rope and then causing the rings to firmly grip the cable by removing the holding means by pulling downwardly on said second rope.

In witness whereof, we hereunto subscribe our names this 28 day of May, 1930.

EVERETT ST. JOHN.
STANLEY C. MILLER.