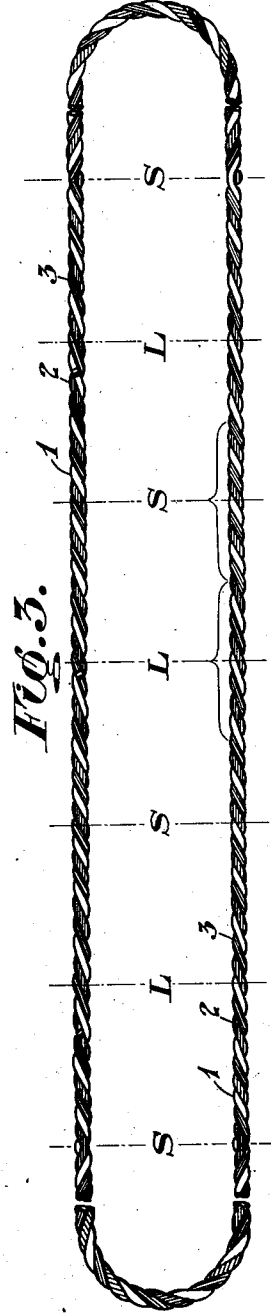
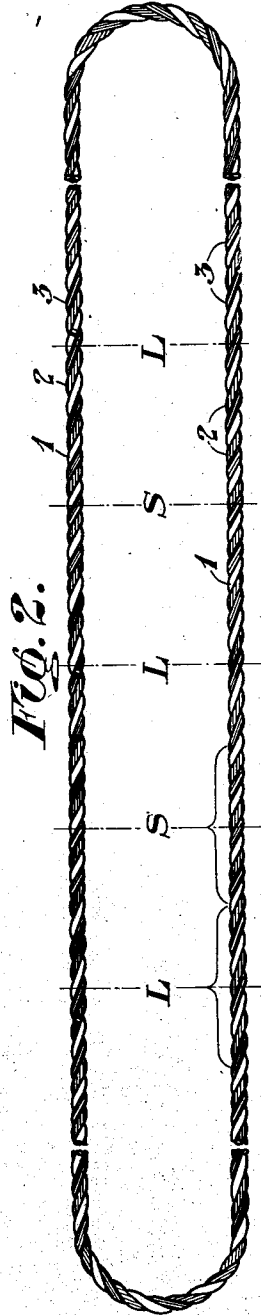
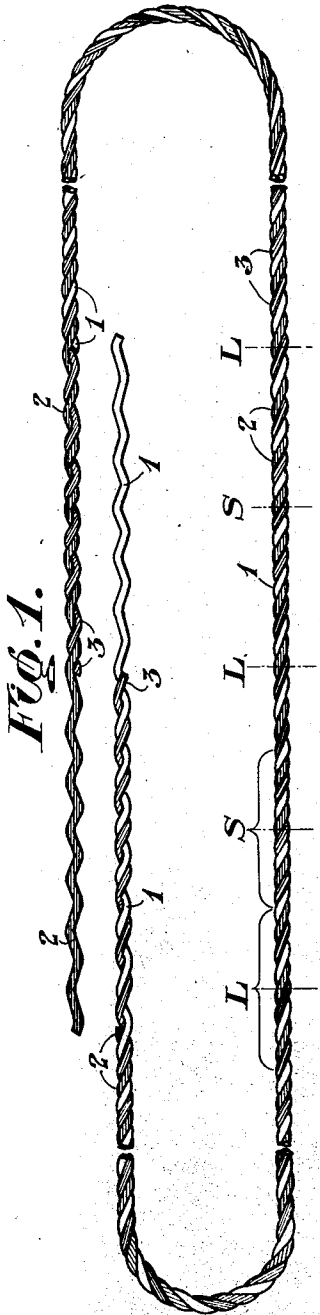


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STONE SAWING STRAND

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2 Claims. (Cl. 117—55)

This invention relates in general to the wire rope art, and is particularly concerned with stone sawing strand, one of the objects being to effect an increase in the security of splicings in any strand made of a plurality of intertisted wires.

A splicing in such a strand is commonly made by unraveling both ends to be joined for distances thought to be sufficient in view of the tension to be carried, the unraveled wires then being arranged so that alternate wires of one end are substituted for similarly laid wires of the other end and vice versa. The wires are all closely fitted into place and their ends trimmed into close abutting relationship and so that the abutting ends of alternate wires are offset from the abutting ends of the others.

The resistance to slipping of such splicing is dependent on the frictional resistance of the various wires which must slide, and the torsional resistance of the various wires to the torque set up by their sliding through the helical paths resulting from their intertisted relationship. These factors are both variable, and slippage in splicing is therefore all too common. Slippage is especially prevalent in stone sawing strand splicings because of the three-wire construction of such strand.

Now the present invention covers a strand made of a plurality of wires that are intertisted with a lay of varied pitch. At the present time it is believed best that the lays should be of alternately short and long pitch. This lay changes in pitch at such spacing along the strand as enables splicing to include at least one change in pitch. A spliced strand made in this manner should have a splicing wherein at least one of the abutting ends of the respective wires of which the strand is made are offset from the abutting ends of the others, this resulting naturally from conventional splicing, and the lay of the strand will change in pitch at least once in this splicing. The result of all this is that slippage of the splicing is retarded, due to the fact that the wires must follow helical paths of different pitch when they slip relative to each other so that the values of both factors mentioned are increased.

Specific examples of the above are illustrated by the accompanying drawing, in which Figure 1 shows a stone sawing strand of the character described, with a conventional splicing that is unraveled so that it can be studied; Figure 2 shows the splicing in its assembled form; and Figure 3 shows a strand embodying the principles described but reversely laid.

In the drawing above described, the three intertisted wires may be respectively identified by the two different cross-hatchings and by the absence of such hatching. They are respectively numbered 1, 2 and 3.

Figure 1 shows that the splicing in this strand is made by unraveling the three wires of the respective ends for considerable distances, which in actual practice are ordinarily about ten feet in length. The wire 2 of the right-hand end is then substituted for the same wire in the left-hand end, while the wire 1 of the left-hand end is substituted for the same wire in the right-hand end, the wires 3 meeting in abutting relationship at the center of the splicing. The increased resistance to slipping in this splicing has already been explained. Also, as previously explained, this results from the wires being intertisted with a lay of varied pitch, the lines drawn at right angles to the strand and respectively marked S and L showing that the strand is of alternately short and long pitch.

Figure 2 shows the splicing assembled, the lines marked S and L indicating that the lay of the strand changes in pitch at least four times at the splicing. This figure also shows that the abutting ends of the alternate wires are offset from the abutting ends of the others, this, however, simply resulting from the conventional splicing.

Figure 3 is included for the purpose of showing that the principles of the invention may be applied to reverse-lay stone sawing strand. It is obvious that it may also be applied to a left-lay stone sawing strand.

Although a stone sawing strand has been disclosed to provide a specific example as required by the patent statutes, it should be understood that the invention is applicable in general to the wire rope art, and the scope of the following claims should not be limited exactly to this specific example.

I claim:

1. A plurality of wires intertisted to provide strand ends, alternate ones of said wires of one of said ends being substituted for alternate ones of the other to form a splicing, the ends of said wires being arranged in abutting relationship and so that the abutting ends of at least some of said wires are offset from the abutting ends of others, said wires being intertisted in the same direction with a lay that changes in pitch at least at said splicing, whereby said wires must travel through helical paths of different pitches before said splicing can be pulled apart.

2. A stone sawing strand comprising a plurality of intertwisted wires, the ends of said strand being joined by substituting alternate ones of said wires at one end for alternate ones of said wires at its other end to form a splicing, the ends of said wires being arranged in abutting relationship and so that the abutting ends of at least some of said wires are offset from the

others, said wires being intertwisted in the same direction at least at said splicing and having a lay that changes in pitch at least at said splicing, whereby said wires must travel through helical paths of different pitches before said splicing can be pulled apart.

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