

N. C. HARRISON.
NON-ROTATING WIRE ROPE.
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1,201,290.

Patented Oct. 17, 1916.

Fig. 1.

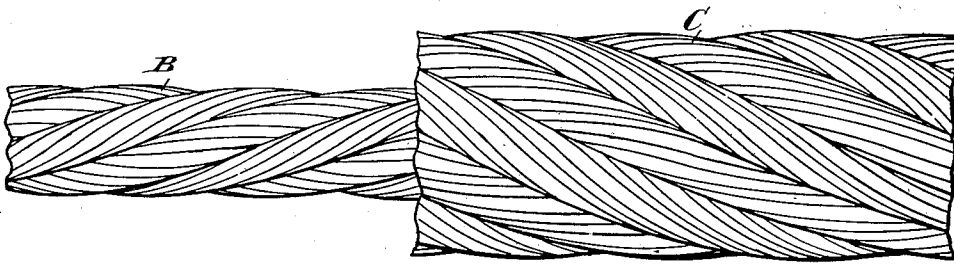
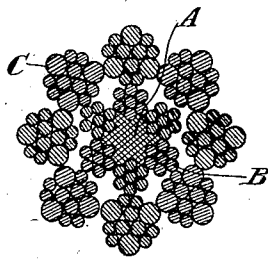


Fig. 2.



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UNITED STATES PATENT OFFICE.

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NON-ROTATING WIRE ROPE.

1,201,290.

Specification of Letters Patent.

Patented Oct. 17, 1916.

Application filed April 1, 1912. Serial No. 687,911.

To all whom it may concern:

Be it known that I, NOBLE C. HARRISON, a citizen of the United States, residing at Trenton, county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Non-Rotating Wire Ropes, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to an improved wire rope of that class known as non-rotating or non-spinning, various forms of which have been made for the purpose of avoiding the tendency of wire rope to rotate or spin, when a single rope and depending heavy load is used and under other circumstances.

The principle on which my improved rope is made, is that of inner and outer layers of strands, each layer being so constructed that each layer is neutral or substantially neutral as to rotating or spinning tendency under direct pull or load, and the inner and outer layers of strands are laid up in opposite directions so that the rope, as a whole, resists any force tending to rotate, spin or twist it in either direction, with the result that the rope is normally neutral and will twist only to a limited extent even under twisting force.

In the accompanying drawings forming a part of this specification, a wire rope embodying the invention in its preferred form is illustrated, and its construction will now be described and the features forming the invention then specifically pointed out in the claims.

In the drawings:—Figure 1 is a side view of the rope with the outer layer of strands removed from a portion of the rope. Fig. 2 is a cross section of the rope.

The rope is shown as formed of a core A, which may be made of hemp or other suitable material, an inner layer of strands B and an outer layer of strands C. As shown, the inner and outer layers are of six and eight strands, but it will be understood that the number of strands in the layers will be varied according to the size and character of rope desired, and that the core may be omitted.

The strands B, C of the two layers are laid in opposite directions, that is, one left

handed and the other right handed, in laying up the rope, as shown. Each layer of strands, also, is made neutral, by which I mean that it is substantially without tendency to rotate, spin, or twist on direct pull or load. This result is preferably secured, as in the construction shown, by laying up or twisting the wires of some of the strands of each layer in one direction in making the strands, and the wires of the other strands in the opposite direction.

In the construction shown, alternate strands in both the inner and outer layers have their wires laid in opposite directions in forming the strands, as shown and described in United States Letters Patent granted to Ferdinand W. Roebling, No. 171,634, December 28th, 1875, but it is to be understood that this arrangement of alternate strands with different lay of wires may be varied, and more or less of the strands be made with wires of one or the other lay, so long as the layer of strands is substantially neutral as stated above. It is to be understood, also, that the invention is not limited to securing this neutral character by using strands having their wires of different lay, but includes broadly a rope having its layers substantially neutral and the strands of the different layers laid up in opposite directions, as defined by the claim.

What I claim is:—

1. A wire rope having inner and outer series of strands wound in opposite directions, the wires in alternate strands of each series being wound in opposite directions, whereby each layer of strands is substantially neutral in respect to rotation.

2. A wire rope having inner and outer series of strands wound in opposite directions, each of said strands being composed of a plurality of wires, and each of said layers being composed of strands, some of which have their wires laid in one direction and some in the opposite direction to neutralize tendency to rotation.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

NOBLE C. HARRISON.

Witnesses:

WALTER W. WILLIAMSON,
HARVEY COOLEY.