

UNITED STATES PATENT OFFICE.

JOHN COULSON, OF ST. PETERSBURG, RUSSIA.

MANUFACTURE AND TREATMENT OF LINE, CORD, ROPES, CABLES, AND OAKUM.

SPECIFICATION forming part of Letters Patent No. 255,600, dated March 28, 1882.

Application filed September 2, 1881. (No specimens.) Patented in England April 7, 1881.

To all whom it may concern:

Be it known that I, JOHN COULSON, of St. Petersburg, in the Empire of Russia, have invented a certain new and Improved Preservative Compound for Fibrous Materials and articles made therefrom, of which the following is a specification.

My improved compound is intended to be used in the treatment of hemp, jute, manilla, flax, or other materials from which line, cord, rope, and cables are made; in the treatment of such articles after they are made; in the treatment of cordage, twine, fishing nets and lines, and woven substances or fabrics, and in the treatment of oakum to be used for calking vessels or other purposes. It is well known that when cordage, ropes, and cables are treated with tar in the ordinary way they do not possess any appreciable elasticity, and that when exposed to cold and frost they become stiff, hard, and brittle, and are difficult to use.

The object of my invention is to provide a preservative compound which may be applied to articles of a fibrous nature, or the materials from which they are made, and which will still leave them pliant and elastic.

To this end the invention consists in a preservative compound composed of fir-tar and naphtha. In preparing my compound I take fir-tar and about an equal quantity, by weight, of naphtha, which is a solvent of the tar. A bath of this compound is maintained at a heat of about one hundred degrees (100°) centigrade.

In treating yarn from which rope, cordage, or other articles are to be made, I conduct or draw the yarn through the heated bath, and as it is drawn out of the bath it may be passed between rollers or nippers to express the surplus liquid which it has taken up. A special advantage of thus treating machine-spun yarn is, that its evenness is preserved, and when made into rope or cordage it does not wear rough by use. Rope or cordage produced from yarn thus treated will, when drawn to tension, "give" similar to "white rope," whereas the yarns of an ordinary tarred rope do not give to a tensile strain.

In treating fishing-nets, lines, or woven fabric, the compound may be applied with a brush, or the articles may be immersed in the bath, and in either case are rendered very durable, and are pliable even when exposed to cold and frost.

In treating oakum the sliver, as it leaves the carding-engine, is conducted or drawn through the bath, and then between rollers or nippers, which express the surplus liquid, and is afterward coiled up into a ball or lump. Oakum thus treated will be protected against rot, and will preserve a soft and spongy character, even during frosty weather. Moreover, it will not cake or become sticky to the touch—qualities which are very desirable in oakum.

I am aware that it is old to treat fibrous and other materials with a compound composed of pyroxyline and oil or other substance, or a compound composed of xyloidine, oil, and other substance. I am also aware that it is old to treat cordage compound of fibrous materials and metal with a compound composed of tar and other ingredients without naphtha. I am also aware that it is old to treat cordage with a compound composed of india-rubber and a solvent thereof, or with a compound composed of tar and other ingredients without naphtha. I therefore do not claim any of these compounds as my invention; but I am not aware that a preservative compound has ever before been made by combining the vegetable product fir-tar with the mineral product naphtha.

I am aware that a cement for roofing purposes has been composed of an alkaline silicate, oil or oils, coal-tar or pitch of coal-tar, and naphtha, and therefore I do not claim such a compound as within the scope of my invention.

I have found that fir-tar is peculiarly advantageous for rendering all kinds of fibrous materials pliable and water-proof, and I claim a compound composed of only two ingredients—fir-tar and sufficient naphtha to give the tar fluidity.

What I claim as my invention, and desire to secure by Letters Patent, is—

The preservative compound for treating fibrous materials and articles made therefrom, composed of fir-tar and naphtha, in about the proportions and in the manner herein set forth.

JOHN COULSON.

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