

UNITED STATES PATENT OFFICE.

LOUIS S. ROBBINS, OF NEW YORK, N. Y.

IMPROVEMENT IN STRENGTHENING AND PRESERVING ROPES, CORDAGE, AND OTHER FABRICS.

Specification forming part of Letters Patent No. 67,678, dated August 13, 1867.

To all whom it may concern:

Be it known that I, LOUIS S. ROBBINS, of the city, county, and State of New York, have invented a new and Improved Process for Strengthening Rope and all kinds of Cordage and textile Fabrics, whether made of hemp, cotton, flax, Manila grass, or other similar material, and for preserving the same from mold and decay; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, special reference being had to the accompanying drawings, which form a part of this specification.

It is a well-known fact that rope, cordage, and textile fabrics made of hemp, flax, and similar materials, when exposed to the heat and moisture of the atmosphere rapidly decay. To prevent this decay, and even strengthen the fiber, is the object of this invention, and the object is thereby accomplished.

The method consists in subjecting the rope, cordage, canvas, and other textile fabrics to a process which supplies materials in a perfect and uniform manner to the fibers, which will protect them from the injurious effects of moisture, and the alternations of temperature.

Other processes have been employed for the same purposes, but with only partial success, owing to the condition of the material used, and the manner of its application.

One process for preserving rope, for instance, is that of passing yarn through boiling tar, and unless the temperature of the liquid be suited with exactness, and uniformity preserved in the movement of the yarn through it, there is danger of injuring the fiber, and of distributing the material unequally; but even if the tar is applied at a proper temperature, and is equally distributed, its chemical effect is deleterious, for rope thus treated decays progressively in a cold, and rapidly in a warm, climate. Besides, from the solidification of the tar thus applied, the elasticity of the rope is impaired, and it is therefore more liable to break.

To all the processes as yet used for the preservation of textile fabrics the objections, as above stated, obtain.

One form of apparatus for carrying out my improved process is represented in the accompanying plate.

A in the drawing represents a retort, made of any desired form or size, in which coal-tar, wood-tar, resin, or other oleaginous substances or compounds are placed, and subjected to the action of heat from a suitable furnace. B represents the man-hole in the upper portion of the retort, used in cleansing the same, or in changing its contents. C C, a pipe communicating with retort A, at or near its top, passing to and communicating with chambers or receptacles D. E represents the discharge-pipe employed for removing the contents remaining after the operation is over.

Heat being applied to retort A, containing coal-tar or some other oleaginous substances, or compounds, vapors are generated therein, which pass out of the same through the connecting-pipes C C, into the chamber D, containing the rope or other fabrics to be treated, or into only one of the same as may be desired.

The application of heat to retort A is continued until the rope or other fabrics are so thoroughly impregnated and saturated with the oleaginous vapors that they are made impervious to moisture, and so as to resist the action of the atmosphere. Then the articles treated may be removed from chambers D through the doors M M, and the chambers may then be refilled.

It has long been established that the oils obtained from tar or other oleaginous substances and compounds, will, when properly applied, preserve fibrous materials from decay; and from the above description it is apparent that by my process I am enabled to more effectually saturate the rope and other like fabrics with the preservative material employed than has been or can be done by any process heretofore in use, for the reason that I use the preservative material in a va-

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porized state, in which form it is more attenuated, more permeating, and is more thoroughly and equally distributed through the fibers.

The objects are thus accomplished in an economical, expeditious, effective, and practical manner.

I do not intend to limit myself to any particular form of apparatus; but

What I do claim as new, and desire to secure by Letters Patent is—

The process herein described for preserving rope, cordage, and all textile fabrics from mold and decay, by charging and saturating them with hot oleaginous vapors and compounds, substantially as herein described.

LOUIS S. ROBBINS.

Signed in the presence of—

J. RICH'D. BARRET,

JAS. WILSON MACDONALD.