G. A. LOWRY.

METHOD OF MAKING PALMETTO OR PALM FIBER TWINE.

APPLICATION FILED NOV. 7, 1914.

1,163,763.

Patented Dec. 14, 1915.

Fig. 1

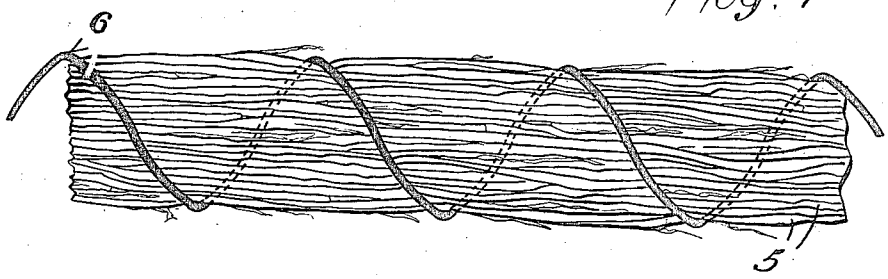


Fig. 2

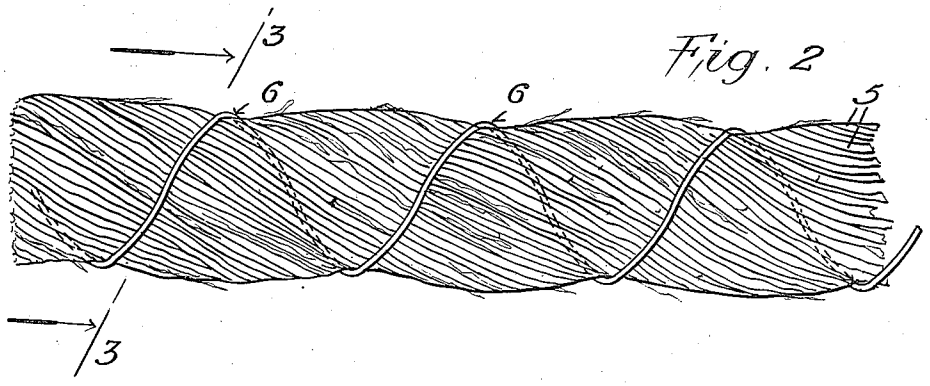


Fig. 3

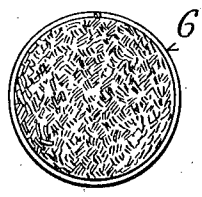
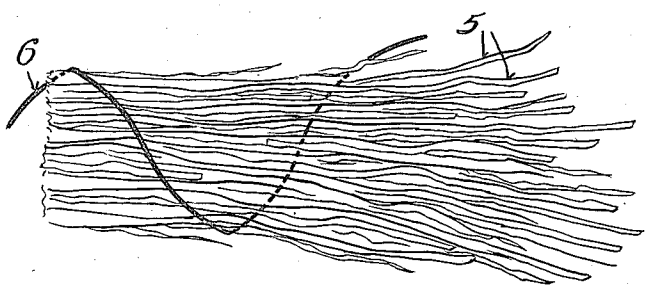


Fig. 4



Witnesses:
O. W. Benjamin
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Inventor
George A. Lowry
By his Attorney
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UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF NEW YORK, N. Y., ASSIGNOR TO PALMETTO PRODUCTS COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METHOD OF MAKING PALMETTO OR PALM FIBER TWINE.

1,163,763. Specification of Letters Patent. Patented Dec. 14, 1915.

Application filed November 7, 1914. Serial No. 870,765.

To all whom it may concern:

Be it known that I, GEORGE A. LOWRY, a citizen of the United States, residing in the city, county, and State of New York, have made a certain new and useful Invention in Methods of Making Palmetto or Palm Fiber Twine, of which the following is a specification.

This invention relates to palmetto fiber twine.

The object of the invention is to produce a twine from the fiber of palmetto leaves, which is strong and durable, well adapted for use in weaving fabrics, and is economical to manufacture.

Other objects of the invention will appear more fully hereinafter.

The invention consists substantially in the structure and mode of operation, as will be more fully hereinafter set forth, as shown in the accompanying drawing, and finally pointed out in the appended claims.

Referring to the accompanying drawing, Figure 1 is a view of a portion of twine made from the fiber of palmetto leaves, constructed in accordance with and embodying the principles of my invention, the fibers being laid in substantially straight or parallel relation. Fig. 2 is a similar view showing the fibers slightly twisted together. Fig. 3 is a transverse section on the line 3, 3, Fig. 2. Fig. 4 is a view illustrating the manner of wrapping the fibers to form the twine.

In certain sections of the country the palmetto and palm grows in profusion and is practically useless for feed or similar purposes. The leaves or blades of this plant are approximately flat, of considerable length, and have a fiber which, while more or less flexible and pliant, is tough and possesses remarkable strength, particularly adapting it for use in the manufacture of yarn or twines. The continuous and abundant growth of this plant in all seasons of the year, makes the utilization of the fiber of its leaves an attractive commercial proposition.

To produce the fiber from the leaves in suitable form for use in the manufacture of twine, said leaves are shredded into thin long narrow strips or strands by minutely splitting the leaves in the direction of the length thereof, thus producing a fiber product well adapted to be made into yarns or twine. The strands, indicated at 5, produced as described, are laid into substantially straight parallel relation, as shown in Fig. 1 and a wrapping 6 of suitable material is applied spirally around the same. If desired, however, and in order to produce a somewhat more compact product, the fiber strands may be slightly twisted spirally as indicated in Fig. 2 and the wrapping material spirally applied to the twisted product. By continuously supplying the fiber strands in suitable and desired quantities and in overlapping relation endwise, and applying the spiral wrapping material thereto a continuous twine is produced which is possessed of remarkable strength and tenacity, and sufficient flexibility to enable it to be woven into various forms of fabric, such as for carpets, rugs, bagging and the like, or used for other purposes for which twine is adapted.

In practice I have found that a thin flexible wire is best suited for the spiral wrapping of the twine product, as it is stronger, more durable and cheaper than thread, cord or other forms of fiber wrappings. It is practically invisible, wears longer and can be wrapped in longer spirals than cotton or other forms of thread. This permits the twine product to be used as a warp in producing woven fabrics, and also the wider spacing apart of the warp in the woven fabric, thus greatly reducing the cost of the woven product. I have also found that by using a substantially invisible flexible wire for the spiral wrapping, a larger area of the natural color of the palmetto fiber strands is disclosed thereby giving the twine product and the fabric product woven therefrom a more desirable and better appearance. Also, with a wire wrapping I am enabled to avoid the objection of the shoes or nails in shoes fraying and catching in the wrapping and breaking the same as is a most common and highly objectionable feature of fiber wrappings for twine used for carpets, rugs, mats or the like, and wherever the twine wrapping is broken it leaves a ragged spot with the ends of the wrapping as well as the ends of the fiber strands employed in the twine, projecting and frayed which easily becomes a target for heels of shoes, the legs of furniture, or the like, to catch in and to tear, thus rapidly rendering the fabric broken, unsightly and damaged in structure and appearance.

Moreover, a twine made up of strands of palm or palmetto leaf fibers spirally wrapped with a thin flexible metallic binder is better suited for use in looms for weaving the twine into fabric. The metal binder presents a slick surface which does not tend to catch or to be caught by protruding slivers during the weaving operation, a defect which has been a serious one in weaving fabrics from twine wrapped with thread or the like. Not only does the metal binder present a slick rubbing surface but it also tends to sink into the resilient mass composing the body of the twine thereby holding the strands more compactly and efficiently than is possible with the thread or other fabric wrapping.

As above indicated, a twine produced as described, and having the structure set forth, is well suited for the manufacture of carpets, rugs, mats, bags or the like, as well as for other purposes for which twine is adapted.

On account of the availability of the palmetto or palm in vast abundance in certain sections of the country, a twine product embodying my invention may be produced in small expense and the cost of manufacture of woven products therefrom enormously reduced as compared with grass twine or similar fiber products. I have found that strands or slivers of shredded palmetto or palm leaves are capable of absorbing coloring matter, and therefore twine products produced in accordance with my invention may be colored in any desired shade.

I do not claim the product of manufacture in this application, as that will form the subject matter of a separate application.

Having now set forth the objects and nature of my invention, and a twine structure and method of producing the same embodying the same, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent is:—

1. The method of making palmetto or palm fiber twine which consists in slitting the leaves of the palmetto or palm into strands, then laying the same into substantially parallel relation, and finally applying spirally a wrapping thereto.

2. The method of making palmetto or palm fiber twine which consists in slitting the leaves of the palmetto or palm into strands, then laying the same into substantially parallel relation and twisting the same, spirally, and finally applying spirally a wrapping thereto.

3. The method of making palmetto or palm fiber twine which consists in slitting the leaves of the palmetto or palm into strands, then laying the same into substantially parallel relation, and finally applying a flexible metallic wrapping spirally thereto.

4. The method of making palmetto or palm fiber twine which consists in slitting the leaves of the palmetto or palm into strands, then laying the same into substantially parallel relation and spirally twisting the same, and finally applying a flexible metallic wrapping spirally thereto.

In testimony whereof I have hereunto set my hand in the presence of the subscribing witnesses, on this 26 day of October A. D. 1914.

GEORGE A. LOWRY.

Witnesses:
SAMUEL E. DARBY, Jr.,
MARJORIE A. GRAEVÈ.