

# UNITED STATES PATENT OFFICE

2,653,441

## YARN MADE OF BLENDED FIBERS

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3 Claims. (Cl. 57-139)

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This invention relates to a yarn made of blended fibers.

An object is to produce a yarn having greater strength than yarn made from fibers all of the same material.

Another object is to produce a yarn of blended fibers that can be made in fine sizes.

Another object is to produce a yarn made of fibers of flax and hemp.

A further object is to produce a yarn in which fibers are used, some having a natural clockwise twist and others a natural anti-clockwise twist to produce a yarn having a cross-twist in the fibers thereof.

I have found that the natural spiral twist of some fibrils runs opposite to the natural twist of other fibrils and, by spinning fibers of opposite twists together, a cross twist is effected, producing better spinability and a stronger yarn.

Such blended yarns may be spun on standard machinery such, for example, as that used to produce cotton yarns, and fabrics made from said blended yarns are stronger than fabrics made from yarns containing fibrils of only one of the constituents of the blended yarn and may have many other desirable qualities because of the fibers used. While there are several fibrils of natural clockwise and anti-clockwise twist available, for the purpose of illustrating the invention, fibers of flax and hemp will now be referred to. It will be evident, however, that the invention is not limited to the use of flax or hemp fibers as any other suitable fibers may be used once the inventive concept herein disclosed is understood.

To practice the invention it is first necessary to determine the natural twist of the selected fibrils. This may be determined in any manner. One sample method is to take a fibril 1½" to 2" long, hold it between the thumb and forefinger with about 1" extending upward. Now with the fingers of the other hand slightly moisten all of the free exposed end of the fibril which will then twist about its axis thereby revealing the direction of the twist.

Flax will twist anti-clockwise and hemp clockwise.

Two fibers with opposite natural twists having been selected, they may be spun into yarn in any suitable manner.

Fibers used in the blended yarn herein disclosed are of natural staple length and are not cut or chopped. Such cutting or chopping leaves the fibers with sharp cut edges, and, therefore, makes them difficult to spin on standard spinning machines. The fibers are produced in a natural

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staple length by any suitable degumming process, one of such means of degumming being disclosed in my co-pending application Serial No. 103,262, filed July 6, 1949, wherein bast fibers are produced of various natural staple lengths without cutting or chopping through the degumming thereof and then being separated into the various lengths, such natural staple lengths having tapering ends which will allow the fibers to be spun on standard spinning machinery. Also the fibers which are of natural staple length may be preshrunk at the same time or the roving or yarn may be preshrunk in any suitable manner such as that described in the co-pending application Serial No. 130,933, filed December 3, 1949. Therefore, this application contemplates the use only of degummed and/or preshrunk fibers of natural staple length, the fibers being combined to produce the yarn. The inventive concept resides in the employment of such fibers of natural staple length having a natural axial twist in one direction combined with another fiber having a natural axial twist in the opposite direction.

The aforesaid application Serial Number 103,262 discloses a method and apparatus for producing bast fibers of various natural staple lengths without cutting or chopping the fibers in any manner in order to separate them into short lengths. Such chopping or cutting leaves the fibers with sharp cut edges (not tapering ends like the natural fibers) and makes them difficult to spin over standard cotton machinery. This application, therefore, contemplates the use only of bast fibers of natural staple length. How these fibers are degummed and preshrunk is immaterial to the practice of this invention where the inventive concept resides in the employment of such fibers of natural staple length having a natural axial twist in one direction combined with another fiber having a natural axial twist in the opposite direction.

What is claimed is:

1. A yarn composed of a selected blend of degummed bast fibers of natural staple length composed of uncut unbroken fibrils some of which have a natural axial twist in one direction and another fiber having a natural axial twist in the opposite direction.

2. A yarn composed of a selected blend of degummed pre-shrunk bast fibers of natural staple length composed of uncut unbroken fibrils some of which have a natural axial twist in one direction and another fiber having a natural axial twist in the opposite direction.

3. A yarn composed of a selected blend of de-

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gummed and pre-shrunk hemp fibers of natural staple length composed of uncut unbroken fibrils some of which have a natural axial twist in one direction and another fiber having a natural axial twist in the opposite direction.

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