

UNITED STATES PATENT OFFICE.

BERTRAND S. SUMMERS, OF PORT HURON, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO INTERNATIONAL FLAX TWINE COMPANY, A CORPORATION OF MINNESOTA.

METHOD OF MAKING FLAX TWINE OR YARN.

1,001,704.

Specification of Letters Patent. Patented Aug. 29, 1911.

No Drawing.

Application filed December 17, 1906. Serial No. 348,123.

To all whom it may concern:

Be it known that I, BERTRAND S. SUMMERS, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in a Method of Making Flax Twine or Yarn, of which the following is a specification.

My invention relates to an improvement in the manufacture of flax twine or yarn, and has more particular reference to what is known in the trade as harvesting twine, although it is not limited to that use.

In the manufacture of flax fiber from the straw, it is necessary to beat or scutch the fiber, or adopt other such severe methods which withdraw from the mass of the fiber the short or tangled fibers. These fibers, known in the art as tow, are marketed at a great sacrifice in price, and find their way principally into the furniture business as stuffing for furniture. I have discovered that there are considerable amounts of good spinning fiber in this tow, and heretofore it has been impossible to utilize it on account of its tangled condition, inferior length, and the amount of improper material mixed with it, such as seed ends, particles of wood, etc. Many attempts have been made to soften this tow, and then card it, and subsequently unite it with the long or line fiber in the string. These attempts have all proved failures, for the reason that when a long fiber is blended with a short one in the process of drawing preparatory to spinning, and the short fiber is in a much finer condition of subdivision than the long, the drawing of the fiber is unequal, with the result that the twine is very uneven, rough, and consequently unmarketable.

Where a yarn is made from the scutched fiber without additional hackling, or further subdivision of the fiber, it is impossible to blend with it satisfactorily a carded stock of the same kind, but of inferior length. I have discovered that if a tow which is scutched from the line flax is passed through ordinary corrugated rolls to soften it, and scutched in any suitable mechanism whatsoever, it can be spread on any ordinary spread board together with

the line, and so blended. The yarn made in this way is practically as even as a yarn made from the line fiber itself. The string is practically as strong, and the cost of production is so much less owing to the utilization of a product which is almost waste material.

In practicing my invention, any of the machines well known in the art can be utilized to accomplish the operations described. Preliminary softening of the tow can be accomplished on the ordinary flax brake used in flax mills, and then by passing the material through any machine whatsoever in which there are beaters designed to scutch fibers. The fibers can be blended in any of the well known spread boards or spreaders known to flax spinners, but in practice I prefer to use a spiral or screw gill spreader, although the blending can be accomplished on the so-called John Good types if it is so desired.

It has been found in practice that a large variation can be allowed in the amount of tow used, but it has also been found desirable to keep the amount of tow introduced in with the line below one-third of the total fiber. I have found that this amount is as much as can be introduced without much injury to the resulting twine, and in most cases I prefer to introduce from 20 to 25%.

While I prefer to spread the tow with the line, (both being in the same condition of subdivision) and blend the two in the first spreading, I have also discovered that it is possible to make a commercial yarn or string by spreading the tow and line separately, and subsequently combining the two slivers in the drawing operation.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. The method of making flax twine or yarn consisting in mechanically working and rescutching the short or tangled fibers known as tow and resulting from the beating or scutching of flax straw whereby such tow is softened, and blending the same with line fiber and then twisting the blended material into twine or yarn.

2. The method of making flax twine or yarn consisting in rescutching the short or tangled fibers known as tow and resulting from the beating or scutching of flax straw
5 whereby such tow is softened, straightened and cleaned, spreading the resulting tow and line fiber separately into slivers and then combining the two slivers into a single one and then twisting the blended material into twine or yarn.

BERTRAND S. SUMMERS.

Witnesses:

THOMAS J. WHITE,
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