The present invention relates to a process for preparing spun threads containing fibers which are themselves not capable of being spun.

It is known to use threads containing stiff hairs and yarn for the purpose of manufacturing stiff fabrics or tissues. The method of producing such threads employed up to now consists essentially of using individual lengths of stiff hair, for instance horsehair and artificial horsehair which are wrapped around or sewn with a yarn. By such wrapping an endless or continuous thread is produced containing individual lengths of hair placed lengthwise in a row.

When this known method is used it is possible for the stiff hairs to project between the turns of the sewing or windings of the wrapped thread and in spite of the wrapping it happens that some stiff hairs pierce the wrapping and thin ends protrude from the thread. Besides, if artificial horsehair is used instead of real horsehair, the fabric woven from the thread tends to crumple to a high degree. The individual lengths of the stiff hairs used in this conventional thread are hardly corrugated or twisted, even if the wrapped thread of stiff hair has a certain twist per se.

It is also to be noted that this method of manufacture is relatively expensive.

It is one feature of the present invention that the thread produced by the method thereof is both reduced in cost and improved in quality and that at least one filament of the stiff hair not fit to be spun is incorporated along the entire thread, being inserted into the fibers to be spun during the drawing process. In this respect the method of the present invention is characterized by the fact that a constituent fiber which is not fit to be spun alone is used in the course of the spinning process.

Another feature of the invention resides in the fact that the method may be performed in such a way that successive lengths of stiff hairs, such as horsehair or artificial horsehair are incorporated into the fibers to be spun during the drawing.

According to a further feature of the invention an endless thread is produced, as described above, in which individual lengths of horsehair or similar stiff fibers are wrapped with yarn. In such a case it is not necessary to bring the successive lengths of the stiff hair into the thread so that their ends overlap. It is even possible to arrange them in the yarn with their ends spaced apart at certain distances from each other and held together only by the wrapping yarn into which the stiff fibers are spun.

Other features and advantages of the method of the invention will become apparent upon reading the following specification together with the accompanying drawing forming a part hereof.

Referring to the drawing:

Fig. 1 is a diagrammatic representation of a spinning machine showing the final drawing and twisting portions.
stiff hair may not only be incorporated during the final stage of the spinning process but also during the doubling or drawing. The practice has shown that the spinnable fibers may be drawn quite well when using smooth stiff hair, e.g., in the worsted-yarn spinning process.

Instead of the continuous or endless wrapped thread comprising lengths of stiff hair, a continuous filament or synthetic fiber may be introduced consisting for example of condensation products of adipic acid and which is incorporated into the yarn to be spun during or after the last drawing process. Here, the same effect happens as just described, namely, an increased resistance against crumpling of fabric woven from the thread is obtained by curling the filament of the synthetic fiber during the spinning, and piercing of the ends of the fibers thus wrapped by the spinning process is impossible. Besides, the twisting of the stiff hair around its own axis increases the elasticity of the thread. By the torsion and wrapping with natural fibers resistance against crumpling is obtained.

Having thus particularly described the nature of my said invention and the manner in which the same is to be performed what I wish to have covered by Letters Patent is:

1. In the process for spinning a thread of spinnable fibers, including the steps of drawing in a plurality of stages and twisting said spinnable fibers, the improvement which comprises successively introducing into said spinnable fibers in the last drawing stage immediately prior to the twisting step predetermined limited lengths of at least one filament of a non-spinnable fiber.

2. In the process for spinning a thread of spinnable fibers, including the steps of drawing in a plurality of stages and twisting said spinnable fibers, the improvement which comprises introducing into said spinnable fibers in the last drawing stage immediately prior to the twisting step predetermined limited lengths of at least one filament of a non-spinnable fiber, said non-spinnable fiber being introduced in the form of a thread consisting of consecutively disposed lengths of non-spinnable fibers connected by a serving of yarn.

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