

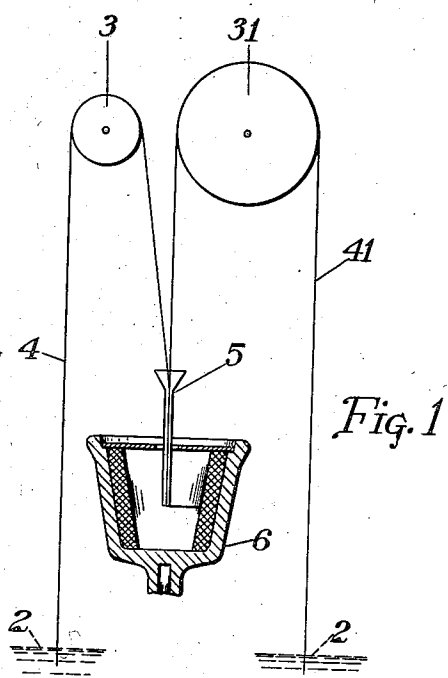
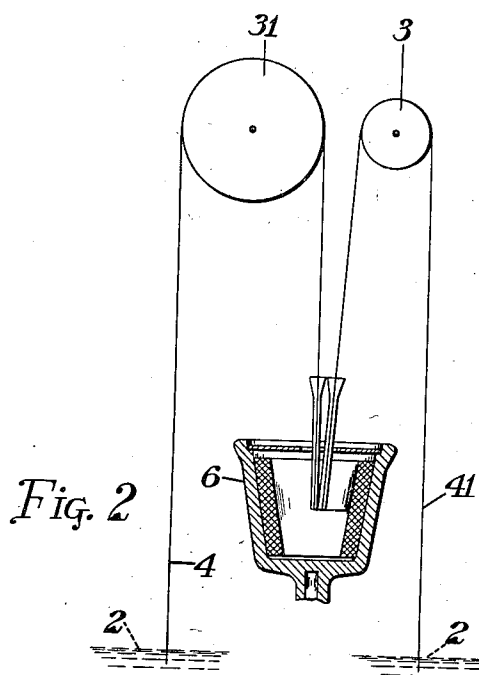
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MANUFACTURE OF THREAD

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MANUFACTURE OF THREAD

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4 Claims. (Cl. 18—54)

This invention relates to the manufacture of artificial threads.

Artificial thread, as made by the viscose, cuprammonium cellulose, or cellulose acetate processes, is composed of continuous filaments twisted together. The resulting thread is extremely smooth and of high luster. In order to lower the luster it has heretofore been proposed to include pigments in the thread or to mar the surface of the thread. However, even with these treatments the thread lacks much of the soft appearance which is so desirable.

An object of this invention is a process of manufacturing artificial thread. Another object of the invention is to produce a new thread having superior appearance. Other objects of the invention will be in part apparent and in part hereinafter set forth.

The objects of the invention are accomplished, generally speaking, by the use of the bucket spinning method of manufacturing rayon wherein, according to my invention, two threads are simultaneously spun into one bucket, one of the threads being delivered at a higher rate of speed than the other thread.

In the drawing Figure 1 illustrates one arrangement of manufacturing thread according to my invention. Figure 2 illustrates another method of manufacturing thread according to my invention.

In the drawing 4—41 are threads issuing from beneath the surface of a coagulating bath; 2—2 are the surfaces of coagulating baths; 4—41 are artificial threads; 3—31 are godet wheels for feeding the artificial threads to the guide or guides, as the case may be, the wheel 31 being of larger diameter than wheel 3; 5 is a reciprocable funnel guide through which both threads pass; 6 is a centrifugal bucket in which the thread is formed into an annular cake.

The operation of my invention, as exemplified in the above apparatus, is as follows: Two threads are spun according to any known method, and are passed over their respective godet wheels and through the guide into the spinning bucket. One godet wheel is set to deliver the thread faster than the other. This may be done by driving identical wheels at different angular velocities or by driving wheels of different diameter at the same angular velocity. In either case there should be a distinct difference in the rate of delivery of the threads to the guide mechanism; in general the rate of delivery of the one thread should exceed the other by at least 30%. Of course, more than one thread may be

passed over either or both godet wheels. The threads led to the guide are preferably of the same, but may be of different, composition; for instance, either one or both threads may be made from viscose, cuprammonium cellulose, a cellulose ester or ether; the composition of viscose used in making two separate threads may be different; either or both threads may be of the hollow filament type; the threads may be of the same or of different deniers. If dissimilar threads are used, for instance of regenerated cellulose and of cellulose acetate, pleasing color effects can be obtained by dyeing in succession with dyes specific to the respective materials.

This softness of appearance can be accentuated by running the thread, after unwinding from the cake, over an abrasive surface, such as over a bar or guide covered with or composed of an abrasive material such as emery, carborundum, emery cloth, and the like. This abrading action can be carried out either before or after purification of the material. The thread may or may not have a traverse motion with relation to the abrading device. The invention also comprehends the fabrication of unfluffed thread into a fabric and the fluffing of the fabric by rubbing it with a satisfactory abrasive.

In Figure 2 is shown a slight modification of the invention. In that figure a funnel is provided for each thread. The product obtained is substantially the same as that obtained by the method described.

An advantage of my invention is a new process of manufacturing thread. Another advantage of the invention is the production of a compound thread which may for convenience be described as a unit of twisted filaments about which is wound a longer unit of less twisted filaments. By abrasion the appearance of the thread may be still further enhanced.

It has heretofore been proposed to wrap one finished thread about another, as in the type of thread called "ratine", but such threads are obviously a compound thread the strands of which can be easily distinguished and almost as easily separated. This is not true of the product which is manufactured by my process in which the separate strands are blended to form a homogeneous appearance, the separate parts of which can be distinguished only by closest inspection or not at all. It is, in short, a unit having a distinctive and pleasing appearance.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it

is to be understood that I do not limit myself to the specific embodiments thereof except as defined in the appended claims.

I claim:

5 1. The method of manufacturing thread which comprises wet spinning an artificial thread, forming another artificial thread, and passing said threads into a centrifugal spinning bucket while said wet spun thread is still in the gel
10 state in such a manner as to form a continuous filamentary thread having a longer thread looped around the same, and abrading said longer looped thread.

15 2. The method of manufacturing thread which comprises wet spinning two separate artificial thread strands, passing said strands into a centrifugal spinning bucket in such a manner as to form a thread composed of a continuous filamentary thread having a longer thread looped
20 around the same while said strands are still in

the gel state, drying said composite thread to permanently set the strands relative to each other and abrading said composite thread.

3. As a new article of manufacture a composite thread comprising a continuous filamentary
5 thread strand having a longer thread strand looped around the same, said filamentary and looped strands being in a substantially permanently set relationship with each other, and said
10 looped strands being abraded to present a fluffy appearance.

4. As a new article of manufacture a composite thread comprising a continuous twisted filamentary thread strand having a longer, less twisted
15 thread strand looped around the same, said strands composed of regenerated cellulose and being in a substantially permanently set relationship with each other and said looped threads being abraded to present a fluffy appearance.

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