

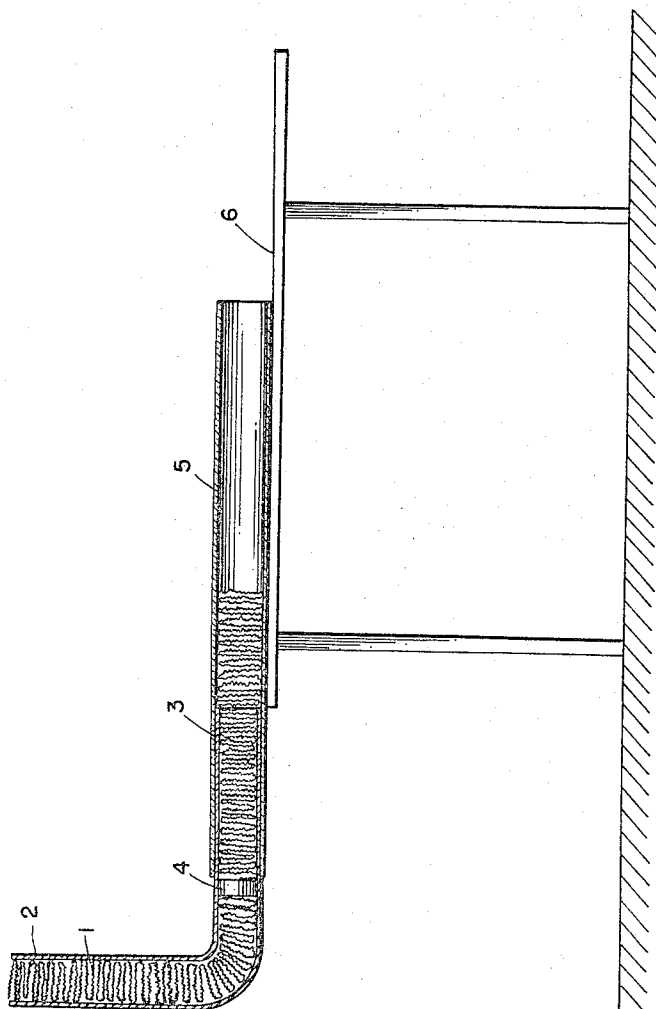
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H. TAUL ETAL

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PROCESS FOR PACKING THREAD CABLES

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INVENTORS:
HORST TAUL
ADOLF WEHLOW

BY *Marjorie Johnston*
Cook & Root

ATT'YS

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PROCESS FOR PACKING THREAD CABLES

Horst Taul and Adolf Wehlow, Kassel-Bettenhausen, Germany, assignors to Spinnfaser Aktiengesellschaft, Kassel-Bettenhausen, Germany

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1 Claim. (Cl. 53—21)

The present invention is directed to a process for packing cables formed from endless threads. More particularly, the invention is directed to a process which is especially suited for packing cables having a large number of individual threads.

Cables of endless threads that are produced in the chemical fiber industry have to be cut to certain lengths in order to produce staple fibers. Synthetic filaments which are produced in the chemical fiber industry have smooth surfaces and are straight when they leave the spinning nozzles. Where it is desired to produce a product resembling wool from such fibers the synthetic filaments are both cut and crimped. The crimping operation increases the area taken up by the individual threads and causes the finished products to resemble wool more closely with respect to their handle. The cables of endless threads are fed to a machine which converts the material directly into a spinnable band consisting of staple fibers which can be further processed in a stretch machine or direct spinner, in which process the parallel position of the fibers in the cable is retained after the fibers are divided. The fibers are divided by tearing, with or without localization of the breakage place, or by squeezing off or cutting the threads.

The cables that are to be fed to the cutting machines are normally placed by distributing devices in rectangular or round containers. This is accomplished by using snorkel type distributing funnels which pick up the endless threads and introduce them by controlled swinging of their distributing end into the receiving containers which are arranged either in a stationary or movable manner beneath the distributing end.

The known distributing devices have not proven satisfactory because despite complicated control means, the depositing is not accomplished with sufficient uniformity. It has been found that the area around the outer edge of the depositing containers has not been filled, and that hollow spaces form which lead to low bulk weights of the containers and to thread snarlings in transport. Cable receiving and distributing devices also are somewhat complicated and require constant maintenance. Moreover, the cable is opened, especially when the container is being transported at the turning edges. The friction on the depositing devices and the resulting static charge of the spinning material likewise promotes the tangling and intermeshing of the cable threads. For these reasons, time after time during the removal of the cable from cartons or cans, tangled cable layers—so-called “curtains”—are pulled out which result in troublesome machine stoppages. Moreover, during the passage of the defective thread cables to the cutting head there occur fiber accumulations with uneven cut lengths as well as “nit” formations and “noppings” of the accumulated spinning bands. One of the requirements for the friction free processing of spinning is the perfect running of the endless threads into the converter machines which hitherto could not be carried out in a perfect manner.

The principal object of the present invention is to provide a process for packing cables of endless threads which overcomes the defects set out above.

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Other objects will become apparent to those skilled in the art from the following detailed description of the invention taken in connection with the attached drawing.

If the drying and fixing of the crimp of cable 1 of endless threads takes place in shaft 2 and, if the shaft is allowed to run out into a horizontal extension 3 which is equal in cross-section and open at the top, the density of the packed layers emerging from the shaft, can be regulated by means of control 4 ahead of the shaft, and the packed layers can be allowed without further contact to enter a transparent flexible tubing 5 which has a cross-section corresponding to the shaft cross-section. The filling tube, endless or cut into suitable lengths, whose one end of the latter may also be closed, is wholly or partly slipped over the extended shaft end and slides onto a following plane 6 or already lies partly on the following plane. After the desired amount of cable has been thrust into tubing 5 the cable is severed and the ends insured against fanning out. This can be done in various ways, for example, by knotting, tying off, pasting, gluing, jamming, and the like. The filled tube is now drawn entirely onto the packing table and is closed.

The packing of the thread cable by the subject method avoids the drawbacks which are present in the prior art processes. The subject process has a number of advantages with respect to the manufacture, transportation, and processing of the cable. The cable produced in the chemical fiber industry is conducted as a preformed product into a shaft in the make up and acclimatized for further processing into a tube designated for removal in running direction and adaptable to desired lengths. The cable remains closed in itself, can be stored as long as desired, and can be kept protected against climate and free of dust in the filling or emptying of the tubing. Since the filled tube is flexible, it can be packed in a satisfactory manner in transportation containers. Because of the skin-tight envelopment of the cable, no fiber tanglings occur because of displacement of the packing layers in the tubing are prevented. For this reason, packing units can be stacked in a highly advantageous manner whereby an optimum space utilization is obtained in storage and transport. The processor, therefore, obtains a preformed, climate-protected product as a closed cable unit with desired running lengths. The processor then feeds these cable units to the converter.

Obviously many modifications and variations of the invention as hereinbefore set forth may be made without departing from the spirit and scope thereof, and therefore only such limitations should be imposed as are indicated in the appended claim.

We claim:

A process for packing a cable of individual threads which comprises: passing a folded cable of parallel, wet, threads downwardly through a shaft; drying said folded cable in said shaft; pressing said cable through a horizontal extension of said shaft and into a flexible tube drawn over said extension with the folds in said cable lying perpendicular to the longitudinal axis of said flexible tube; severing said cable; securing the ends of said cable to prevent fanning out; and thereafter closing said tube to provide a substantially air-tight passage.

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TRAVIS S. MCGEHEE, Primary Examiner.