

UNITED STATES PATENT OFFICE.

ADOLF KUBE, OF WALDITZ, GERMANY.

TREATMENT OF WASTE FLAX FOR OBTAINING A PRODUCT ADAPTED TO BE SPUN
LIKE CARDED WOOL YARN.

1,051,124.

Specification of Letters Patent.

Patented Jan. 21, 1913.

No Drawing.

Application filed May 13, 1912. Serial No. 697,054.

To all whom it may concern:

Be it known that I, ADOLF KUBE, a subject of the King of Prussia, residing at Walditz, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in the Treatment of Waste Flax for Obtaining a Product Adapted to be Spun Like Carded Wool Yarn, of which the following is a specification.

10 This invention relates to improvements in the treatment of waste flax for obtaining a product adapted to be spun like carded wool yarn.

15 The invention is based upon the fact that after the fibers have been curled in the well-known manner by being bathed in chemical solutions they lose completely their original brittleness and stiffness and attain a high degree of softness and flexibility after having been submitted to the action of an aqueous oil-emulsion which is characterized the addition of organic acids so that a strong acid reaction is obtained.

20 The treatment is as follows:—After the waste flax has been freed from the awns by beating or heckling it is boiled for about one hour in a liquid composed of 400 liters of water and about 5 kilograms of sodium hydrate to produce the curling of the fibers. 25 The material after having been removed from the bath is washed and dried and brought into a trough filled with a liquid composed as follows:—500 grams of crystallized sodium carbonate, 250 grams of soft soap, 1000 grams of pure dry potassium bitartrate, 150 grams of painter's glue, 250 grams of olive-oil and 100 grams of acetic acid (20%), are dissolved in 220 liters of water heated to about 45°.

30 The solution obtained forms a milky acid emulsion in which the fibrous material is left for about one hour at the temperature hereinbefore mentioned. It is then removed from the bath and dried without having 35 been previously washed.

40 Instead of washing the material after the first bath, that is to say, after the alkaline bath, it can be freed from the liquid by cen-

trifugal action whereupon it is brought at once into the second acid bath. In this case 50 the carbonate of sodium and glue are omitted from this bath.

For the potassium bitartrate, citric acid, lactic acid or the like, can be substituted although in this case the effect will not be 55 quite so good as with potassium bitartrate.

The material thus prepared is conducted twice through a willow machine with automatic regulation to be well loosened, so that it can then be treated in the carding machine without damaging the points of the 60 cards. By further treating the material in the breaking card with automatic weighing in the box feeder and in the drawing frame a woolly soft fleece is obtained which gives, 65 after it has gone through the carding machine, a roving which is distinguished by its softness and luster and having threads of absolutely uniform thickness. The carding can be effected with the normal 150 revolutions of the drum without any danger of the roving being torn to pieces. This roving can be spun to yarn upon the self-actor.

The speed is regulated according to the thickness of the yarn required and the carding process will be carried out without any difficulty, the roving being delivered from the delivery cylinder without interruption. The percentage of breakage is absolutely 80 normal.

I claim:—

Improvements in the treatment of waste flax for obtaining a product adapted to be spun like carded wool yarn consisting in treating the fibrous material in an alkaline 85 solution, and in exposing the same to the action of an aqueous oil emulsion to which organic acids have been added so as to give a strong acid reaction.

In witness whereof I have hereunto set 90 my hand in the presence of two witnesses.

ADOLF KUBE.

Witnesses:

SIGFRIED LUSTIG,
LOUIS KATZ.