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STUFFING MATERIAL.

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The invention concerns a stuffing material, suitable for filling pillows, cushions, feather beds, quilts and similar articles.

According to the invention, the product consists of a thorough and intimate combination by means of machinery of

1. Seed hair (seed wool), or substitutes therefor, or artificial silk, or mixtures of same, below called "fibres" with

2. Feather barbs, obtained by subjecting feathers to a mechanical disintegrating process.

Seed hair is the fine floss covering the seed of several dicotylednous plants, for instance, cotton, kapok, asclepias, etc.

Feather barbs are the fine threads composing the vane set on the shaft of feathers, which barbs are furnished with barbules.

Feather barbs are obtained by passing whole feathers through a crushing and cutting machine in which the barbs are separated from the shaft. The crushed and cut feathers are further operated upon by the same machine in that the barbules and hooks on the barbs are opened up so as to make them suitable for mixing with seed hair. Subsequent to the crushing and cutting operation, the barbules and hooks are separated by any suitable means from the large particles of the crushed and cut feathers and shafts.

To describe a suitable manner of preparing the improved product, the following is given by way of example.

The fibres are fed, for instance by air suction, into a fast rotating machine, containing two sets of arms, alternately arranged in rows, which, whilst the machine is working, move at various rates of speed, one set for instance being kept stationary while the other set which is secured to a shaft, rotates at the speed of the latter. The two sets of arms pass each other with a clearance between them, thus causing an opening up and teasing out of the fibres, which thus are partly disentangled. If during that treatment feather bars are added to the fibres, or afterwards, for instance by sucking or blowing feather barbs into an air current carrying floating fibres, it will result in the intimate and thorough interworking of the fine integrating parts of these materials, which is the object of the invention.

The invention is based on the fact known from nature that the vanes of a feather are provided with barbs and barbules, of which according to Newton's Dictionary of Birds, there are about 780,000 on the inner vane of a crane's flight feather, and over 1½ millions in all on a feather. Half of these barbules have hooks that grip around the other half having no hooks, thus holding them in position.

Fibres, when used alone, are apt to curl and assume a lumpy form which undoubtedly is due to the comparatively great friction among the fibres themselves, a friction and curling (formation of lumps) which according to the invention is counteracted by the barbules having hooks and protuberances, clinging to the fibres, thus keeping them apart, resulting moreover in the formation of air spaces between them, in consequence of which the material in a higher degree becomes a poor heat conductor which also is of importance in its employment for feather beds, cushions and quilts.

Owing to the above mentioned disadvantageous properties of these fibres, the use of same as filling material has hitherto been a limited one only, while through its intimate combination and interworking with feather barbs in the manner above described, they are converted into a composite product forming a more durable filling material than fibres alone and being even cheaper.

The mixing proportion between fibres and feather barbs can within reasonable limits be chosen at will while retaining the special effect above mentioned.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent:

1. Stuffing material consisting of seed hair having feather barbs closely mixed therewith.

2. Stuffing material consisting of fibers having feather barbs mixed therewith.

3. Stuffing material consisting of vegetable fibers having feather barbs closely mixed therewith.

In testimony whereof I have affixed my signature.

H. O. LANGE.