

UNITED STATES PATENT OFFICE

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PROCESS FOR THE PRODUCTION OF SOFT FABRIC OR THE LIKE FROM VEGETABLE FIBROUS MATERIALS

No Drawing. Application filed May 5, 1930, Serial No. 450,052, and in Germany July 16, 1928.

The improvement and finishing of vegetable fibre textile fabrics, particularly of cotton fabrics, generally necessitate the use of stiff dressings as these are suitable to the relatively inelastic fibrous material.

In order, however, to obtain softer elastic fabrics from such fibrous material, that is, cellulose, attempts have been made, not without success, in the first place to effect a change in the fibrous material by chemical means. The process is technically known as the preparation of artificial wool, although as far as the material is concerned, there is no change in the small structural cells or of the molecules into anything which can be recognized as anything other than more or less known decomposition products of cellulose. In the present state of the art a radical change in the appearance and chemical composition of the cellulosic material is required, if such effects are to be obtained. A considerable thickening of texture is also, always effected, which is accomplished by a stiffening of the normal fabric. The fabric, in order to be softened and made more pliable must be treated with finishing compositions such as warm dressings or must be subjected to mechanical operations, with the result that the product is greatly impaired.

Now it is extremely surprising, that fabrics of extraordinary and unsurpassable softness and with the least possible tendency to form creases can be obtained in an extremely simple manner, if, quite generally, the fabrics to be treated are first of all produced about so much more open in texture as to warp and weft as it is necessary to shrink them again by means of a suitable shrinking process of a kind known per se, in order to obtain products of the same texture as is shown by the fibres of cotton character which are not soft. It must be observed, however, that the shrinkage in the warp threads must amount to at least 5% and in the weft threads at least 8%. The action is so penetrative that the condition of the original materials is immaterial. Even the most sensitive shrinking processes which are known, suffice for the production of technically faultless results. The finish-

ing treatment is carried out in a manner which is usual for woollen goods.

The efficiency of the new process is obvious since it only necessitates small additional expense in the weaving.

Example

An ordinary cotton gabardine fabric, from which the production of so called artificial wool presents great difficulties technically, can be made to present a very great resemblance to wool directly and without further special treatment if it is so woven that the warp threads are spaced about 25% for example and the weft threads about 10% for example, further apart than in the original pattern, and the prepared raw fabric is then passed through a shrinking bath of the usual kind, for example after simple preliminary wetting through a solution of the concentration usual in mercerizing. In order to obtain faultless colourings a further treatment by means of soda or soap solutions such as are used for wool, is sufficient.

I claim,

A process to produce soft fabrics or the like, which comprises predetermining the final thread count for both warp and weft thread in a fabric, weaving a fabric of vegetable fibre with a more open warp and weft than represented by said count and applying a caustic soda mercerizing solution to said fabric and shrinking it, the strength of the shrinking agent and spacing of the warp and weft threads being proportioned with respect to one another so that said shrinking will cause the fabric to shrink to the predetermined thread count.

In testimony whereof I have affixed my signature.

FRITZ THIES.

CERTIFICATE OF CORRECTION.**Patent No. 1,885,019.****October 25, 1932.****FRITZ THIES.**

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 23, for "accomplished" read "accompanied"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 27th day of December, A. D. 1932.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.