

COMMISSIONER'S DECISION

OBVIOUSNESS - Embossed Carpet

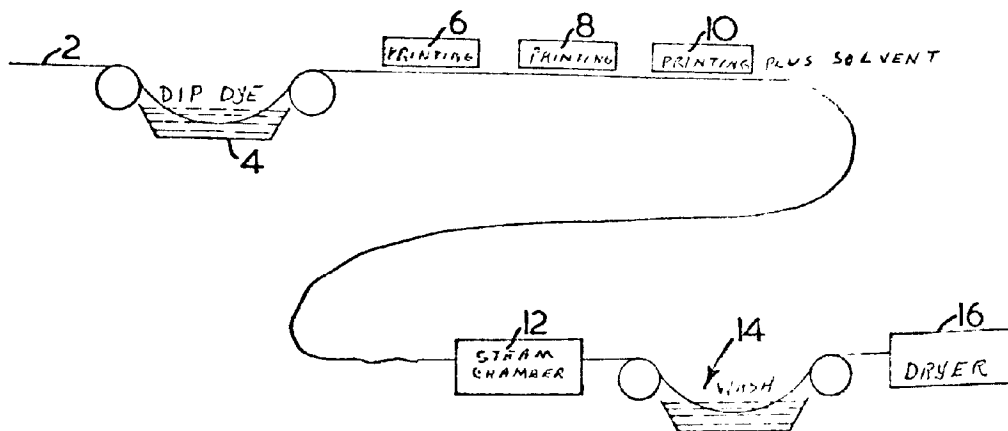
The application claims a process for making a printed and embossed carpet. The cited art did not teach nor suggest the process of the present application.

Final Action: Reversed

\*\*\*\*\*

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated January 15, 1976, on application 143,410, Class 8-37. The application was filed on May 30, 1972, and is entitled "In-Register Printed and Embossed Carpet". The Patent Appeal Board conducted a Hearing on July 6, 1977, at which Mr. D. Watson, Q.C. represented the applicant.

This application relates to the process of producing an In-Register Printed and Embossed Carpet. More particularly the carpet passes through a series of printing stations which apply a pattern to the carpet due to the dyes in the printing inks. At some of the printing stations, the inks which provide the pattern components to the carpets also contain a solvent which will cause shrinkage of the carpet fibers (when steamed) to secure an embossed effect to the carpet. Figure 1, shown below, is a representation of the process utilized:



In the Final Action the examiner refused the claims in view of the following references:

Canadian Patent

335,836            Sept. 19, 1933            Dickie

United States Patent

3,505,000        Apr. 7, 1970            Shinmura

Dickie shows the printing of a fabric with an embossing agent. The embossing is achieved by physical removal of the fiber, rather than by fiber shrinkage.

Shinmura teaches the chemical shrinking of fibers to give a seersucker or crepe design on woven or knitted piece goods. The fabrics however, are not pile fabrics. The references will be discussed in more detail later.

In the Final Action the examiner stated his position (in part) as follows:

...

Shinmura et al utilize a printing station wherein a pattern is printed on the fabric. The printing paste contains an embossing agent which is capable of shrinking the fibers of the fabric. After the printing operation the fabric is subjected to a steaming operation to shrink the fibers. The fabric is then washed and dried.

The rejection of claims 1-2 as obvious in view of the applied references when viewed with the state of the art is therefore maintained.

Applicant's alleged invention as reflected in the claims is directed to the combination of a two step printing operation followed by steaming, washing and drying. The two step printing operation is an "in register" printing operation characterized by the inclusion of a chemical embossing agent, ("a solvent,") in the printing paste at the second printing step.

The printing of materials (such as pile fabrics) with an embossing agent is shown in both patents. Dickie et al teach that the embossing agent can be a solvent for the fibers and also that the embossing agent can be combined with a colourant. Both patents teach that to bring about the shrinking of the fibers the fabric must be subjected to elevated temperatures such as to a steaming operation (Shinmura et al).

In register printing, which comprises the printing of different patterns, using several printing stencils or rollers, on a fabric is well known. Since the printing of a material, such as a pile fabric with a paste containing a colourant and a fiber solvent is known (Dickie et al) the in register printing of a fabric with different coloured pastes plus a paste that also contains an embossing solvent is deemed an obvious combination. As far as the single steaming step is concerned, it is known that steam can be used to both set dyes into fabrics and to bring about the shrinking action of fiber solvents. Therefore since it is known to combine the colourant and "solvent" in a printing paste, it is obvious to employ a single steaming operation....

The applicant in his response to the Final Action had this to say (in part) as follows:

...

In accordance with the teachings of Shinmura et al to obtain the embossed seersucker or crepe design on woven or knitted piece goods a printing paste is applied to the fabric. It is brought to the Examiner's attention that there is no suggestion of the use of a solvent in the printing paste and it appears that the paste merely acts to shrink the fabric. Claim 1 presently on file clearly defines over such concept in employing in-registry printed patterns, one of the pattern components employing a printing ink containing a solvent for the carpet fibers. Shinmura et al merely applies the paste and subsequently steams the woven or knitted piece goods whereby shrinkage occurs to attain an embossed seersucker design. There is no concept of employing either dye components or printing components to attain a pattern nor is there any teaching in this prior art reference of applying steam to shrink the fibers which are effected by the solvent to produce the embossed effect in the printed areas as well as to set the dye in a carpet. Shinmura et al attains a crepe type of material whereas applicant's process produces a carpet having a pattern printed on the carpet with the pattern having embossed areas and non-embossed areas in registry. Shinmura et al is not concerned with obtaining an embossed effect in printed areas only but to obtain a seersucker or crepe design over-all pattern in knitted piece goods. As previously indicated, the Shinmura et al reference refers to a very specialized treatment of particular material, the use of a printing paste containing a benzamide applied to polyvinyl alcohol fibers and is restricted to attaining a seersucker or crepe design on goods of polyvinyl alcohol fibers only. In contrast thereto applicant's process relates to the printing and embossing of carpet material which would, in applicant's opinion, be directed to non-analogous art....

...

The Examiner in the Official Action has attempted to suggest that what is lacking in the prior art specifically cited would be found in the state of the art unspecified, however, it is sub-

mitted that there is no prior art to suggest printing employing a dye or no prior art to suggest that a previously printed pattern component is in-register printed with a second pattern component without the previously printed pattern being set. Applicant has by the present concept attained a carpet having a pattern printed thereon and the pattern having embossed areas and non-embossed areas in-register all in a single pass operation. The concept of the single pass operation is attainable only on a reading of applicant's disclosure and cannot be found in either of the references suggested by the Examiner nor would such be obvious in view of the state of art known to applicant. It is thus submitted that in applicant's opinion claims 1 and 2 presently on file would not be rendered obvious in view of the references cited when viewed with the state of the art. Reconsideration and withdrawal of the Final Action by the Examiner is requested....

We have carefully considered the prosecution of this application and the interesting and informative remarks made at the Hearing by Mr. D. Watson. A number of sample models of the carpet were also displayed at the Hearing. The issue to be considered is whether or not the applicant has made a patentable advance in the art. Claim 1 reads as follows:

A process for producing a carpet having a pattern printed thereon and the pattern having embossed areas and non-embossed design areas in registry, composing the steps of: printing the carpet with at least one pattern component, using only a dye to provide the pattern component, moving the carpet to a second printing station wherein the previously printed pattern component is in register with the second pattern component to be printed, printing the second pattern component in register with the first pattern component and using a printing ink containing a solvent for the carpet fibers, then after all of the pattern components have been printed on the carpet, applying steam to the carpet to shrink the fibers affected by the solvent to produce an embossed effect in the printed areas and to set the dyes in the carpet, washing the carpet, and then drying the carpet to remove the wash water.

It is first of importance to note that the word "emboss" means (New Collegiate Dictionary): to ornament with raised work - to raise in relief from a surface.

The Dickie patent, which issued in 1933, treats materials such as cellulose acetate with the combination of an organic liquid and an inorganic salt having a solvent action on the cellulose derivative to attack part of the

cellulose derivative. He then dries the material and removes the cellulose derivative. In this patent the effect is achieved by physical removal of fiber, rather than by fiber shrinkage. We are not satisfied that it would be readily apparent or obvious to use the shrinkage technique of the present application from the teachings of this patent. The reference does not teach nor suggest the process as disclosed in the present application.

The Shinmura patent is specifically concerned with the problem of impressing embossed seersucker or crepe design on woven or knitted piece goods. Shinmura's effect is not created by reduction in the vertical height of certain yarns, as in the present application, but by the shrinkage in the horizontal direction in which the contraction of certain yarns in that horizontal direction pulls the fabric together and causes adjacent yarns to crinkle out of the plane of the main flat fabric.

Seersucker and crepe fabrics are normally relatively light weight apparel fabrics and are usually made by weaving yarns of different twists, either in the warp direction or in the weft direction. The fabric is then treated to permit the different twists to assert themselves to pull the relatively light weight fabric in different directions, to crinkle certain parts thereof out of the main plane of the relatively flat fabric.

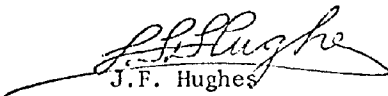
Chemical seersucker and crepe operations are also known, such as in Shinmura, wherein the chemical action of a shrinking agent pulls certain parts of the fabric together and causes other parts to crinkle out of the main plane of the relatively flat, light weight fabric. It is a type of action which is completely different from the embossing action obtained by the applicant.

In summary Dickie teaches the total removal of patches of fabric. Shinmura clearly teaches the treatment of woven or knitted goods and not of pile

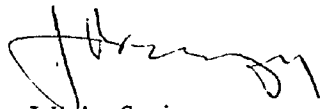
fabrics. In other words the fabrics are different from that in Shinmura; the type of action is different; and the final product is different.

Claim 1 is directed to a process for producing a carpet having a pattern printed thereon with the pattern having embossed areas and non-embossed areas. A dye or printing ink only is used in the first pattern component; a dye or printing ink containing a solvent is used on a later pattern component; steam is then applied to the carpet to shrink the fibers affected by the solvent to produce an embossed effect in the printed areas and to set the dyes. The applicant is furthermore only concerned with a new process and not a new product. The monopoly sought by the applicant is fair, in our view, and not broader than the invention made.

We are satisfied that the applicant has made a patentable advance in the art. We recommend that the decision in the Final Action to refuse the claims be withdrawn.

  
J.F. Hughes  
Assistant Chairman  
Patent Appeal Board, Canada

I have studied the prosecution of this application and have carefully reviewed the recommendations of the Patent Appeal Board. In the circumstances I have decided to withdraw the Final Action and return the application to the examiner for resumption of prosecution.

  
J.H.A. Gariopy  
Commissioner of Patents

Agent for Applicant

Gowling & Henderson  
P.O. Box 466, Terminal A  
Ottawa, Ontario  
K1N 8S3

Dated in Hull, Quebec

this 8th. day of August, 1977