

COMMISSIONER'S DECISION

Obviousness: Method for Conditioning Fabrics

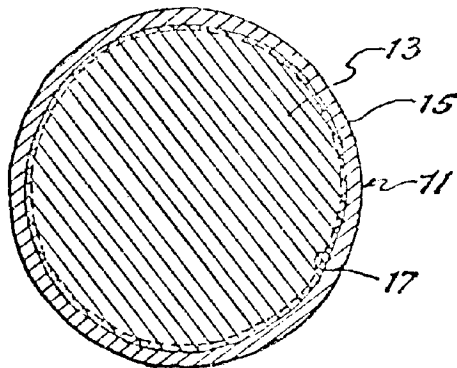
The method consists of contacting fibrous material with a form-retaining base or substrate having conditioning agents on its surface. The conditioning takes place in a rotatable drum, such as that of an automatic laundry dryer. The cited reference does not reach this method, and it was concluded the claims are directed to a patentable advance in the art.

Final Action: Reversed.

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This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated June 24, 1976, on application 125,551 (Class 8-93.11). The application was filed on October 19, 1971, and is entitled "Fabric Conditioning Methods." The Patent Appeal Board conducted a Hearing on December 7, 1977, at which Mr. P. Hammond represented the applicant.

The application relates to conditioning fibrous materials by contacting them with a base or substrate having a conditioning agent on a surface thereof. The conditioning is effected in a rotatable drum, such as that of an automatic laundry dryer. The base article, which is form-retaining, is free to commingle with the fibrous material in the dryer. Figure 1, below, shows that arrangement:



In the Final Action the examiner refused all the claims for lack of patentable subject matter in view of the following Patent:

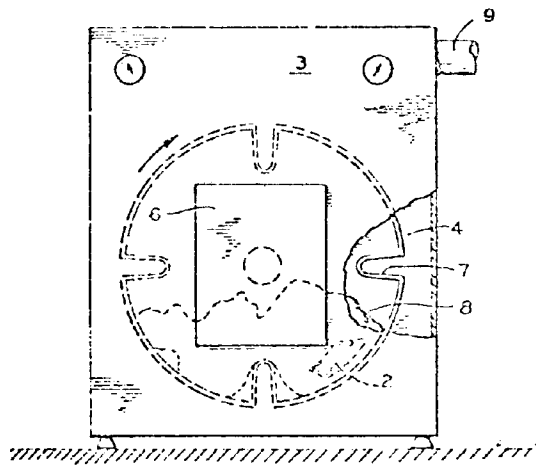
United States

3,442,692

May 6, 1969

Gaiser

That patent shows a flexible substrate for conditioning fabrics in a laundry dryer. The substrate carries a softener which is transferred to the fabrics in a commingling action. Figure 1, below, shows that invention.



Claim 1 of that patent reads:

The method of conditioning fabrics which comprises commingling pieces of damp fabric by tumbling said pieces under heat in a laundry dryer together with a flexible substrate carrying a conditioning agent to effect transfer of the conditioning agent to the fabric while being dried.

In the Final Action the examiner had this to say (in part):

Applicant argues that his claims define an invention over Gaiser because Gaiser does not teach a solid state form retaining base, and because Gaiser teaches that the base is uniformly impregnated with the fabric softener as opposed to being only surface coated with it. The examiner agrees that these differences exist, and also that applicants process has certain advantages over Gaiser's. However the examiner feels that these differences and advantages are not unobvious and their realization does not require the exercise of inventive ingenuity.

Gaiser's teachings lend themselves to obvious modifications as to nature, form, size, method of preparation and location of the fabric softening article. Such obvious modifications present themselves to a person skilled in the art who has to select a particular fabric softening article based on desired properties.

The selection of a solid form retaining base, though not specifically taught in Gaiser, is deemed a selection requiring only expected skill and not an invention. It is well known that a non form-retaining material, such as an article of clothing, gets twisted and balled up in the dryer. Hence, the use of a solid, form retaining base is obvious because it is not balled up with the clothes, is moved around more freely and uniformly by the vanes of the dryer and it therefore prevents staining due to being stuck in one position with respect to the clothes. It is these obvious properties and modes of behaviour of solid form retaining bases that are responsible for their obvious advantages. Furthermore, these obvious advantages present themselves to a person skilled in the art once he is familiar with Gaiser's basic aims that is "the provision of a simple and economic... comingling with a substrate carrying a conditioning agent for the fabric..." (column 2 lines 34-40).

Applicant goes on to argue that "coating on at least a portion of an exterior surface of a base ..." is also an inventive feature of his claims. However, it is readily apparent to a person skilled in the art that a fabric softener will be removed more readily from a base to a fabric by either attrition or sublimation if that fabric softener is located on or near the surface of the base. Furthermore it is also deemed obvious that it is advantageous to treat the base material with the fabric softening composition in such a way so as to allow some of the softener to penetrate into the base and thus prevent the softener from flaking off. Restrictions related to the amount of penetration of the softener into the base reflect the expected skills of a person versed in the art and not his inventive ingenuity.

The applicant in his response of September 24, 1976 stated (in part):

The present invention is for a method of conditioning fibrous material such as clothes with a solid state, form-retaining conditioning substance such as the spherical article shown in Figure 1. Like the flexible substrate in the Gaiser patent, this form-retaining article is placed in the dryer with the clothes and is tumbled therewith. Unlike the flexible substrate of the Gaiser patent, the base material is not impregnated with the softening substance but rather it is coated on its exterior surface with the substance. In addition there is the requirement in claim 1 that a portion of the softening substance penetrate the base to the extent of ten to thirty percent of the portion exterior of the base.

Thus there are at least two important differences between the method of Gaiser and that of the present invention and the first of these is the use of a solid state, form-retaining conditioning substance on the exterior surface of the base. This feature results in a number of advantages over the prior art as explained in the present disclosure. For example, the flexible substrate of the United States patent may be folded during tumbling with the wet wash and is sometimes trapped within the wash so that it does not make free contact with all the clothing in the dryer. This in turn can cause the clothes to be stained or spotted because of the heavy concentration of the agent applied to one particular area of the goods. Because the conditioning substance in the method of the present invention is not on a flexible material but rather is on a form-retaining exterior surface, there is less of a tendency for the agent to flake off in undesirable chunks. The lack of flexing of the conditioning substance prevents tension and compressive forces from breaking up or cracking the material.

The second main difference of the method of the invention which is recited in claim 1 is the placing of the conditioning substance in the form of a coating on the exterior surface of the base. It is important to consider this distinguishing feature in combination with the aforementioned feature of a form-retaining conditioning substance. The two features work together in providing an important advance over the prior art. Because the conditioning substance is in the form of a coating on the exterior surface of a base, there is little danger of the conditioning substance flaking off in undesirable chunks because of a flexing action in the dryer. Because the conditioning substance is on the exterior surface of a base and is therefore form-retaining, the conditioning substance can be applied in the form of a coating having a substantial portion exterior of the base. In fact the portion of the softening substance which penetrates the base is only ten to thirty percent of the portion exterior of the base. The formation of a coat on the exterior of the base is important as it results in a maximum use of the softening substance. Any conditioning composition below the surface of the base cannot be removed therefrom by simple abrasion of the article with the clothes.

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To conclude then, since independent claim 1 recites several important distinguishing features which result in significant advantages none of which are suggested by the cited prior art, and since none of these features would be obvious to one skilled in the present art, let alone the co-operating combination thereof, reconsideration and allowance of this application are respectfully requested.

...

The question to be considered is whether or not the claims are directed to a patentable advance in the art. Amended claim 1 reads:

A method of conditioning fibrous material with a fabric softening substance which comprises tumbling such material in a damp and/or heated state in contact with a solid state, conditioning substance which is either a nonionic surface active fabric softening compound, a water soluble anionic surface active softening compound or a mixture thereof and which is transferable to the fibrous materials under the conditions of operation, and continuing the tumbling for a period of time long enough to apply to the fibrous materials a coating of the conditioning substance sufficient to soften such materials, wherein the solid state conditioning substance is in the form of a coating on at least a portion of an exterior surface of a base and a portion of the softening substance penetrates the base, said portion being from 10 to 30% of the portion exterior of the base and wherein said base is form-retaining at all times.

At the Hearing Mr. Hammond argued that the claims were patentable over the cited reference. He raised a number of interesting points which we shall now consider.

One of the main arguments for allowability of the claims is that the base or substrate is solid and form-retaining whereas in the reference the substrate is "flexible." This feature results in a number of advantages. For instance, the flexible substrate of the reference may be folded or trapped during the tumbling action. This can cause the clothes to be stained or spotted because of the heavy concentration of the agent which is applied to the substrate. Also if the substrate becomes trapped in the clothes, it will not make free contact with all the clothes, so that there is inadequate conditioning of the clothes.

A second argument made is that the conditioning substance is in the form of a coating on the exterior surface of the solid substrate, and this allegedly works better than if the conditioning agent penetrates throughout the substrate. Mr. Hammond also argued that there is less flaking-off from a solid base

than a flexible base, but we do not find this a strong argument because a large part of the drying cycle takes place at temperatures where the conditioning substances are softened, and not prone to crack or flake-off. Another point raised was that the applicants conditioner has the advantage that it is re-usable, whereas the prior art means are used only once.

We have concluded that the combined affect of all the above-mentioned features results in the maximum use of the conditioning substance. We believe that the cited art, which emphasizes and claims the use of a flexible substrate, would lead one away from using a form-retaining or solid substrate. Furthermore, one might anticipate that tumbling solids in a drier would create problems, and be led away from what this applicant now teaches. Consequently, although the advance made in the art may not be great, we are satisfied that the applicant has achieved here a result in a more expeditious manner than that taught in the patent cited by the examiner. The present method apparently gives better and improved results.

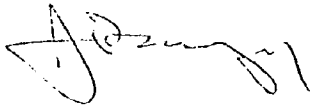
We are not satisfied, however, with the scope of amended claim 1, especially in one area. It states that the "base is form retaining...." This of course covers any shape, and some shapes, without doubt, would become trapped in the clothes. Thus claim 1 in its present form should be refused. The claim should be amended in the last line to specify that the "said base is form-retaining and of such a shape that permits effective tumbling action...."

Claims 2 to 12, which depend directly or indirectly on claim 1, add such things as variations in temperature and type of, proportion or dimensions of the conditioning agent. These features however, do not make these claims patentable over refused claim 1. Claims 2 to 12 in themselves are not allowable, but would be acceptable if dependent upon a claim 1 amended as directed above. We also believe that in claim 3 "form-retaining" should be changed to "solid."

We recommend that the decision to refuse the claims be affirmed, but that the claims be accepted when amended as suggested, or by some similar amendment.

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

I have reviewed the prosecution of this application and I concur with the recommendation of the Patent Appeal Board. Accordingly, I refuse to allow amended claims 1 to 12, but I will accept the claims when amended as discussed by the Board. The applicant has six months within which to submit an appropriate amendment, or to appeal my decision under the provision of Section 44 of the Patent Act.



J.H.A. Gariépy  
Commissioner of Patents

Agent for Applicant

Smart & Biggar  
P.O. Box 2999, Station D  
Ottawa, Ontario  
K1P 5Y6

Dated at Hull, Quebec

this 22nd. day of December, 1977