(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 144 186**
A2

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **84307971.6**

(22) Date of filing: **16.11.84**

(51) Int. Cl.[4]: **D 06 F 58/20**
C 11 D 17/04

(30) Priority: **18.11.83 GB 8330815**

(43) Date of publication of application:
12.06.85 Bulletin 85/24

(84) Designated Contracting States:
AT BE CH DE FR IT LI NL SE

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(54) **Process for conditioning fabrics in the tumble-dryer.**

(57) Fabrics are conditioned in the tumble-dryer by means of a sachet (18) containing a free-flowing fabric conditioning powder (4), the sachet contacting the fabrics directly during the drying process. The sachet (18) is provided with a relatively small number of 1-3 mm openings (23) grouped together in a limited area (25) of the sachet wall and protected, up to the point of use, by an adhesive patch (24). The fabric conditioning powder advantageously contains a substantial proportion of soap.

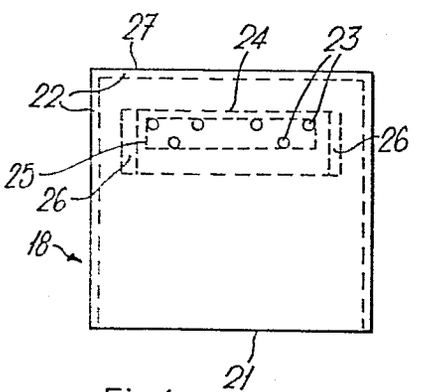


Fig. 1.

EP 0 144 186 A2

PROCESS FOR CONDITIONING FABRICS IN THE TUMBLE-DRYER

The present invention relates to a method and device for conditioning fabrics in a tumble-dryer. The term "conditioning" is used herein to mean the imparting of certain consumer benefits, including softness and reduced static cling, to washed fabrics.

GB 2 122 657A (Unilever), published on 18 January 1984, and GB 2 136 028A (Unilever), published on 12 September 1984, both disclose a device for applying powdered fabric conditioning agent to fabrics in the tumble dryer. The device consists of an inner container, such as a paper or nonwoven fabric sachet, filled with fabric conditioner and positioned within a second, apertured container which is substantially form-retaining and of a shape, for example spherical, that allows ready movement among the tumbled fabrics. The inner container is permeable to the powdered fabric conditioner and the powder is dispensed through the two containers as the device moves freely among the fabrics. This device gives

exceptionally uniform delivery of conditioner onto the fabrics.

The preferred form of inner container is a sachet of tea bag paper or the like which is provided with a large number of small openings, distributed over its whole area.

The outer container serves to protect the inner container from direct contact with damp fabrics and with water droplets, so that clogging of the relatively small pores of the inner container is prevented. The outer container also helps to reduce the incidence of local overloading of conditioner, and hence spotting and staining. Because of its shape and form-retaining properties it is unlikely to become caught in the fabrics.

An alternative type of inner container is also described, which is a sachet of plastics film having a relatively small number of relatively large openings positioned relatively closely together in one wall only.

An example of such a sachet, having six holes each of 2 mm diameter, is illustrated in Figures 7 and 8 of both applications.

It has now surprisingly been found that this type of inner container may be used alone, without an outer container, to deliver a powdered fabric conditioning agent in the tumble-dryer. Delivery of powdered fabric conditioner from this type of sachet has been found to be substantially more efficient than from the tea bag type, and clogging does not appear to occur to any significant extent.

The present invention accordingly provides a process for conditioning fabrics, which comprises tumbling damp

fabrics under the action of heat in a laundry dryer in direct contact with a sachet containing a fabric conditioning composition in free-flowing powder form, the sachet being formed of a sheet material substantially impermeable to moisture and to the fabric conditioning composition, and the sachet being provided with a relatively small number of openings having smallest and largest dimensions within the range of from 1.0 to 3.0 mm and being substantially free of other openings.

When delivering a powdered fabric conditioning composition in the tumble-dryer from a dispensing device, it has been found highly desirable that virtually all the composition be delivered within the first 10 minutes of the drying cycle, while the fabric load is still damp enough for the particles of conditioning agents to adhere, take up moisture and spread. Some conditioning compositions, however, tend to agglomerate under the moist, warm conditions of the dryer and the resulting agglomerate particles may be too large to escape from the dispensing device if its holes, for example the pores of tea bag paper, are relatively small. The powder thus becomes trapped in the dispensing device. Agglomeration can be aggravated by the presence of perfume. The role of dryer conditions in the agglomeration process has been demonstrated by comparing the delivery rates of fabric conditioning powders under normal conditions with the delivery rates obtained when a dry load in an unheated dryer is used.

According to the present invention the adverse effect of dryer conditions on delivery is alleviated by careful choice of the size and location of the holes in a dispensing device in the form of a sachet. While the total open area in such a sachet may be no greater or may even be smaller than that of a sachet of tea bag paper,

the delivery rate of the powdered conditioning composition can be substantially improved.

The openings have smallest and largest dimensions within the range of from 1.0 to 3.0 mm, preferably from 1.5 to 2.5 mm. Conveniently the openings may be circular and these figures then apply to their diameters. Optimum opening size depends on the particle size of the powdered conditioning composition, which can range from 20 to 1000 µm, preferably 50 to 500 µm and more preferably 80 to 300 µm. It is preferred that the smallest dimension of the openings is at least 3 times as large as the upper particle size limit of the powder, and it is desirably at least 7 times as large.

For powders classified as 90 to 180 µm and 90 to 250 µm, excellent delivery characteristics have been found using circular holes of 2 mm diameter.

Since the openings are relatively large, only a small number of such openings is needed to ensure efficient delivery. The number of holes per sachet is preferably from 3 to 12, and more preferably from 6 to 10.

Conveniently the openings are positioned relatively closely together in one wall only of the sachet. This means that the sachet is not unduly weakened by the presence of these relatively large openings. Furthermore, the openings can easily be closed, prior to use, by means of a relatively small covering patch or strip that can be peeled off immediately before the sachet is inserted in the tumble-dryer. The covering patch or strip need cover only the area occupied by openings and may be, for example, an adhesive-coated paper label provided with non-adhesive-coated pull tabs.

A further advantage is obtained if the openings are positioned close to one end or edge of the sachet. The sachet can then be held with this end or edge uppermost while the cover strip is peeled off; the powder will then remain below the level of the openings and will not come into contact with the user's hands.

Preferably the openings are all positioned within a single area of sachet wall not exceeding 800 mm^2 (8 cm^2) and more preferably not exceeding 500 mm^2 (5 cm^2). This is in the context of an overall sachet wall area that preferably ranges from 18 to 200 cm^2; for a simple square sachet having two walls this corresponds to dimensions of 3 cm x 3 cm to 10 cm x 10 cm. The overall sachet wall area more preferably ranges from 25 to 100 cm^2.

Optimum sachet size of course depends on the weight of fabric conditioning composition to be delivered. The appropriate dose will of course vary to some extent between different compositions, but will generally be within the range of from 1.5 to 12 g, preferably from 3 to 10 g and more preferably from 5 to 7 g. The sachet should be chosen to accommodate the powder comfortably without undue wastage of sachet material. For a 3 to 10 g dose a sachet of 5-7 cm x 5-7 cm has been found to be of suitable size.

The sachet is made of a material impermeable to the conditioning composition and to water. A plastics sheet material, for example polyethylene, may conveniently be used. Advantageously this may have a layer of paper or nonwoven fabric laminated to its outer surface to form the outer wall of the sachet. This facilitates adhesion of a patch or cover strip over the area where the openings are located, and if desired can also carry printed matter or a design. A suitable laminate is manufactured by

Stora-Kopparberg of Sweden under the trade mark Storalene 739-45: this consists of a polyethylene layer (17 g/m²) and a nonwoven fabric layer (45 g/m²). The nonwoven fabric sheet consists of 40% cellulose pulp, 35% cotton linters, 20% viscose and 5% acrylic fibres.

The fabric conditioning compositions used in the process of the invention can include any material which imparts to fabrics any consumer benefit, for example, softness, anti-static properties, perfume, crease-resistance or easy-iron characteristics, or any combination of these. It is essential that the composition be in free-flowing powder form, in order that it can be delivered by a sachet in accordance with the invention. It is furthermore essential for effective conditioning that the powder, once scattered onto the damp fabrics, will during the drying cycle form a fluid or gel phase and spread over the fabrics before drying. This gel formation may be by way of melting, dissolution, dispersion or any combination of these mechanisms. It thus follows that the composition desirably either melts at the temperatures prevailing in the later part of the drying cycle, or has an affinity for water at these temperatures such that efficient spreading will occur by means of normal or colloidal dissolution or dispersion; or exhibits a combination of these properties.

In terms of melting point, there is an additional constraint that a material that melts at too low a temperature will melt while still in the inner container and will not be delivered. Thus it is generally true that powders melting below about 50°C are not suitable for use in the process of the present invention.

If fabric conditioning agents having these various prerequisites are used, the composition may consist wholly

of such ingredients that contribute actively to fabric conditioning. Other conditioning agents, for example, those not available as free-flowing powders, having too high or too low melting points or too low solubilities, may nevertheless be used in the device of the invention if they are combined with adjunct materials that improve these properties.

The three benefits currently most sought after by the consumer are softening, elimination of static cling and perfume. As indicated previously, the tumble-drying process itself imparts some softness to the fabrics, but this is less than the softness resulting from the use of a rinse conditioner; additional softening is thus desirable. Softening agents known in the art include substantially water-insoluble surfactants, especially nonionic and cationic surfactants.

According to a preferred embodiment of the invention, the fabric conditioning composition includes or consists of one or more water-soluble C_8-C_{22} saturated or unsaturated soaps. Advantageously the composition consists to an extent of at least 55% by weight of such soaps.

It is especially preferred that the composition consist to an extent of at least 55% by weight of a blend of soaps of C_8-C_{22} saturated or unsaturated fatty acids, said soap blend containing at least 5% by weight of C_{12} soap, at least 5% by weight of C_{14} soap, at least 12% by weight of C_{16} soap and at least 20% by weight of C_{18} soap, the composition being in the form of a powder free of any protective coating.

A method of conditioning fabrics using such a composition is described and claimed in the aforementioned GB 2 136 028A (Unilever).

It has been found that soap blends as defined above, when applied as a free-flowing powder to fabrics in the tumble-dryer, are highly effective fabric softeners and also reduce static cling; this latter property can if desired be further improved by the inclusion of a minor proportion of cationic material, but that is by no means essential. The particles, scattered from the sachet onto the fabrics during the early part of the drying cycle, initially adhere to the damp fabric and then spread to cover the fabrics.

These soap blends are especially suited to delivery in powder form. Soap applied as a coating or impregnant on a sheet substrate, without distributing agent, was found to be delivered very poorly to the fabrics, so that very little softening benefit was obtained; a substantial proportion of the soap remained on the sheet substrate. According to the method of the present invention, on the other hand, 100% delivery of the conditioning agent to the fabrics may easily be achieved without the use of a distributing agent.

The particle size of the powder will influence the speed and uniformity of delivery. Particle sizes above 1000 μm have been found to give insufficiently uniform conditioning, and thus powders having particle sizes above this figure, which may more properly be regarded as granules, are unsuitable for use in the process of the invention. The smaller the particle size of the powder, the greater the uniformity of its distribution on the fabrics in the dryer; but a particle size smaller than 20 μm is undesirable on safety grounds because of its

respirability. As indicated above, the preferred particle size range is 50 to 500 μm, more preferably 80 to 300 μm.

The powdered conditioning agent used according to the invention preferably consists, to an extent of at least 65% by weight, of the soap blend as defined above. The cation is generally alkali metal, preferably sodium or potassium; ammonium; or substituted ammonium, for example, triethanolamine. The blend preferably contains at least 7% by weight of C_{12} soap, especially from 7 to 27%; at least 6% by weight of C_{14} soap, especially from 6 to 12%; at least 15% by weight of C_{16} soap, especially from 18 to 28%; and at least 25% by weight of C_{18} soap, especially from 32 to 54% by weight.

The soap blend advantageously used in the process of the invention thus contains significant amounts of four different chain lengths, the spread of chain lengths - from C_{12} to C_{18} - being relatively wide.

The blend may contain both saturated and unsaturated soaps. Advantageously the blend contains at least 15% by weight of C_{18} unsaturated soap, preferably at least 20% by weight and especially from 22 to 38% by weight.

These blends having a wide and well balanced chain length spread, obtainable for example by mixing tallow and coconut soaps, have been found to give highly efficient softening. These blends may advantageously contain from 45 to 85% by weight of tallow soap, the balance being coconut soap.

Commercial blends of coconut and tallow soaps as used in toilet soap bars and fabric washing soap flakes have been found to offer excellent softening performance. These blends may in some cases be superfatted, that is to

say, they contain up to about 10% by weight of free fatty acids. This appears not to be detrimental in terms of softening performance, but can make the milling of the soap to a free-flowing powder more difficult.

The chain length distribution of some typical blends, together with those of tallow and coconut soaps, are shown in the Table.

The powdered conditioning agent may if desired consist entirely of soap. This has the merits of cheapness, technical simplicity and environmental innocuousness.

Alternatively, blends of soap (55% by weight or more) with lesser amounts of other materials may be used. Since soap already has excellent delivery and softening characteristics, no additional materials such as distributing agents are required to improve those properties, and since soaps are cheap and easy to handle, it will not generally be necessary to include other materials on cost reduction or processing grounds. Any additional materials used may thus be chosen purely to enhance the overall fabric conditioning effect, for example, to improve the reduction of static cling or to impart crispness, perfume or easy-iron characteristics. Of course these additional materials must be available in free-flowing powdered form, whether as such or coated or encapsulated.

If desired the powdered fabric composition may contain soap in combination with a cationic fabric conditioning agent to give especially effective reduction of static cling. The cationic fabric conditioning agent, which may be present in an amount of from 5 to 45% by weight, is advantageously a quaternary ammonium salt.

Fabric-substantive compounds of this general class containing two long-chain alkyl groups and two lower alkyl groups, for example, di(hardened tallow alkyl) dimethyl ammonium chloride or methosulphate, are especially suitable. One such material is Arosurf (Trade Mark) TA 100 ex Ashland Chemical Company, which is a dry, free-flowing 95% active form of distearyl dimethyl ammonium chloride.

Chain length	Tallow	Coconut	Tallow/coconut blends (wt %) 85/15	80/20	60/40	45/55
C_8	-	7.0	1.0	1.5	3.0	3.8
C_{10}	-	8.1	1.2	1.6	3.2	4.5
C_{12}	-	48.0	7.2	9.6	19.2	26.4
C_{14}	4.5	17.5	6.5	7.0	9.7	11.7
C_{16}	30.6	9.0	27.4	26.3	21.9	18.7
C_{18} sat.	19.2	2.1	16.6	15.8	12.3	9.8
C_{18} unsat.	42.7	5.7	37.2	35.3	27.9	22.4
Other	3.0	2.6	2.9	2.9	2.8	2.7

The fabric conditioning composition also advantageously contains a perfume, which is preferably fabric-substantive. Other components of the composition need not be fabric-substantive, unlike the materials used in rinse conditioners, because the fabrics are not wetted again after the application of the conditioning composition.

A sachet for use in the process of the invention will now be described in further detail, by way of example only, with reference to the accompanying drawings, in which

Figure 1 is a plan view, of approximately actual size, of a sachet, and

Figure 2 is a sectional view, on an enlarged scale, of the sachet of Figure 1.

Referring now to Figures 1 and 2 of the drawings, a sachet 18, containing a powdered fabric conditioning composition 4, is formed of a laminate of polyethylene film 19 and nonwoven fabric 20, the film 19 being innermost. The sachet 18 is approximately square in shape and its dimensions are approximately 6 cm x 6 cm. As shown, the sachet 18 is composed on a single sheet of laiminate, one edge 21 being constituted by a fold and the other edges 22 being closed by heat-sealing; alternatively, two sheets could have been used and all four edges closed by heat-sealing. Six holes 23 of approximately 2 mm diameter have been punched in one wall of the sachet, the holes being positioned within a notional rectangular area 25 of about 4 cm x 0.6 cm (2.4 cm^2) close to one edge 27 of the sachet. A label 24

of paper coated with adhesive covers a slightly larger area than the area 25 and completely covers the holes 23; the label 24 adheres without difficulty to the nonwoven fabric 20, but can readily be removed immediately prior to use of the sachet by peeling. Non-adhesive-coated regions 26 are provided at both ends of the label 24 to form pull tabs.

In the process of the invention, fabrics that have been washed, rinsed and spun are placed in the tumble-dryer. The sachet is held with the edge 27 uppermost, as shown in Figure 2, so that the powder 4 lies below the level of the holes 23, and the label 24 is pulled off. The sachet is then placed in the tumble-dryer with the damp fabric load and the dryer is operated in the normal way. The powder is scattered over the fabrics, mostly during the first 10 minutes of the dryer cycle; it adheres to the still-damp fabrics, spreads and conditions the fabrics.

The invention is further illustrated by the following non-limiting Examples.

EXAMPLES

For the Examples, 6 cm x 6 cm sachets were prepared using the Storalene (Trade Mark) laminate described above. The sachets were generally as described above with reference to the accompanying drawings, but contained differing numbers of holes, ranging from 1 to 12, as detailed in the individual Examples. In every sachet the holes were confined within a 6 mm-wide area just below the top seal. For comparison purposes, tea bag sachets of the same size were prepared from Crompton (Trade Mark) 650 31AB tea bag paper. This has an average pore size of about 75 µm. Some comparative information on a tea bag

sachet and a perforated laminate sachet with 10 2-mm circular holes is given below.

	Teabag sachet	Perforated laminate sachet
Total number of holes or pores in sachet (6 cm x 6 cm)	326 000	10
Total area of pores or holes	1430 mm^2	31.4 mm^2
Average area per pore or hole	0.0044 mm^2	3.14 mm^2
Percentage vented area	39.8%	0.87%

The "percentage vented area" is the percentage of the total area of sachet wall constituted by holes or pores.

For the tumble-drying tests, 2.5 kg mixed fabric loads (50% cotton, 50% synthetic fabrics) were first washed at 60°C in a Miele (Trade Mark) 429 front-loading automatic washing machine using Persil (Trade Mark) Automatic washing powder. The wash cycle included rinsing and spinning. The load was then placed in a Creda Reversair (Trade Mark) tumble-dryer, together with the sachet under test, and the dryer switched on. The dryer was stopped after 5, 10 and 20 minutes, the sachet was removed, weighed and replaced, and the dryer was

restarted. The sachet was also weighed at the end of the cycle. Thus the weight of active ingredient that had been delivered at each stage could be determined by difference. Both high and low heat settings of the tumble-dryer were used as specified in the individual Examples. Comparison runs were also carried out using dry fabric loads and no heat, to determine the delivery characteristics of the various sachet/powder combinations in the absence of moisture and heat.

EXAMPLE 1

In this Example, the sachets each contained 6 g of fabric conditioning composition, consisting of 1.5 g Arosurf (Trade Mark) TA 100 (distearyl dimethyl ammonium chloride) and 4.5 g of powdered soap (4 parts sodium tallow soap, 1 part sodium coconut soap), plus 1.1% by weight of perfume. The powder was prepared by mixing the ingredients in slurry form, drying and milling to a particle size range of 90-180 µm.

The delivery of this powder from perforated laminate sachets with 10 holes was compared with the delivery from tea bag sachets, both under normal dryer conditions (using the high heat setting) and using a dry load and no heat. The results are shown in Table 1. The delivery of conditioner from a commercially available impregnated tissue - Bounce (Trade Mark) ex Procter & Gamble - was also tested; the tissue carried about 2.1 g of fabric conditioner as a waxy solid coating.

It will be noted that under normal dryer conditions only about 2 g of the 6 g of powder was delivered by the tea bag sachet over the whole 60-minute cycle, the remaining 4 g being trapped in the sachet owing to agglomeration. The perforated sachet used according to

the invention, on the other hand, delivered 5.9 g altogether, of which 5.7 g were delivered in the first 10 minutes of the drying cycle.

Under the "ideal" conditions of a dry load and no heat, both sachets delivered their contents rapidly and efficiently, showing that the problems encountered with the tea bag sachet may be attributed to the damp, warm conditions prevailing in a real tumble-dryer situation.

The impregnated tissue delivered a much smaller quantity of active ingredient, amounting to only about 77% of its loading, and did so relatively slowly.

EXAMPLE 2

The procedure of Example 1 was repeated using as active ingredient 6 g of Arosurf TA 100 alone, sieved to a particle size of 90-180 µm. The results are shown in Table 2.

This material showed very much less tendency to agglomerate, and delivery from the tea bag sachet under real conditions was almost satisfactory. The perforated sachet still, however, gave faster delivery and showed less sensitivity to dryer conditions.

Table 1

Time (mins)	Powder delivered (g) Normal dryer conditions: Tea bag sachet	Normal dryer conditions: Perforated sachet	Dry load/no heat: Tea bag sachet	Dry load/no heat: Perforated sachet	Delivery from impregnated tissue (average of 3 results)
0	0	0	0	0	0
5	0.45	4.1	3.1	5.9	0
10	0.45	5.7	5.35	6.0	0.05
20	0.8	5.8	5.95	6.0	0.48
60 (end)	1.95	5.9	6.0	6.0	1.61

Table 2

Time (mins)	Powder delivered (g) Normal dryer conditions		Dry load/no heat	
	Tea bag sachet	Perforated sachet	Tea bag sachet	Perforated sachet
0	0	0	0	0
5	2.65	6.0	3.7	6.0
10	5.25	6.0	5.9	6.0
20	5.9	6.0	6.0	6.0
60 (end)	6.0	6.0	6.0	6.0

EXAMPLE 3

The effect of the number of dispensing holes in the sachet was investigated using 6 g of active ingredient consisting of 1.5 g Arosurf TA 100 sieved to 90-250 µm and dry-mixed with 4.5 g soap (as in Example 1) milled to 90-250 µm, together with 1.1% perfume. Sachets with 1, 3, 6, 9 and 12 holes were compared with each other, with tea bag sachets and with Bounce (Trade Mark) impregnated tissues, at both low and high heat settings, the results being shown in Tables 4 and 5 respectively. The tea bag sachet was also tested under "ideal" conditions (dry load, no heat) to indicate the extent of the influence of heat and moisture on its delivery characteristics.

At the low heat setting (Table 4), 1 hole was clearly inadequate and 3 holes were not very satisfactory. The sachets with 6 holes and 9 holes performed well and only a small improvement was obtained on going to 12 holes. The tea bag sachet performed very poorly under these conditions.

At the high heat setting (Table 5), similar results were obtained, with slightly greater differentials between the 3-hole, 6-hole and 12-hole sachets. The tea bag sachet was even worse under these conditions.

Table 4

Low heat setting

Time (mins)	Perforated sachet 1 hole	3 holes	6 holes	9 holes	12 holes	Tea bag sachet Real Conditions	Dry load no heat
0	0	0	0	0	0	0	0
5	1.45	2.56	4.27	4.80	4.40	0.40	2.18
10	2.15	3.96	5.42	5.75	5.70	0.42	3.58
20	3.25	5.48	5.79	5.80	5.75	0.52	5.45
90 (end)	4.80	5.90	5.85	5.85	5.80	2.22	6.00

Table 5

High heat setting

Time (mins)	Perforated sachet 1 hole	3 holes	6 holes	9 holes	12 holes	Tea bag sachet Real Conditions	Dry load no heat
0	0	0	0	0	0	0	0
5	0.90	2.45	2.57	3.95	5.70	0.30	2.18
10	1.85	3.72	4.18	5.40	5.95	0.38	3.58
20	2.71	4.41	5.66	5.83	5.95	0.69	5.45
60 (end)	3.20	5.26	5.85	5.90	5.95	1.65	6.00

Impregnated tissues were tested at the same time and the following results were obtained:

Time (mins)	Low heat setting	High heat setting
5	0	0
10	0	0.12
20	0.13	0.23
end	1.37	1.61

In both sets of conditions delivery was very slow. At the low heat setting, the total delivery of 1.37 g of active ingredient was less than that delivered by the teabag sachet (2.22 g) and represented about 65% of loading; at the high heat setting a higher percentage (about 77%) of active ingredient was delivered, the amount being similar to that delivered by the tea bag sachet.

CLAIMS

1. A process for conditioning fabrics, which comprises tumbling damp fabrics under the action of heat in a laundry dryer together with a dispenser containing a fabric conditioning composition in free-flowing powder form, characterised in that the dispenser is in the form of a sachet (18) which comes into direct contact with the fabrics in the dryer, the sachet (18) being formed of a sheet material (19, 20) substantially impermeable to moisture and to the fabric conditioning composition (4), and the sachet (18) being provided with a relatively small number of openings (23) having smallest and largest dimensions within the range of from 1.0 to 3.0 mm and being substantially free of other openings.

2. A process as claimed in claim 1, characterised in that the openings (23) have smallest and largest dimensions within the range of from 1.5 to 2.5 mm.

3. A process as claimed in claim 1 or claim 2, characterised in that the number of openings (23) in the sachet is within the range of from 3 to 12.

4. A process as claimed in claim 3, characterised in that the number of openings (23) is within the range of from 6 to 10.

5. A process as claimed in any one of claims 1 to 4, characterised in that the openings (23) are all positioned within a single area (25) of sachet wall not exceeding 800 mm^2.

6. A process as claimed in claim 5, characterised in that the openings (23) are all positioned within a single area (25) of sachet wall not exceeding 500 mm^2.

7. A process as claimed in claim 6 or claim 7, characterised in that the area (25) occupied by the openings (23) is relatively close to one edge (27) of the sachet.

8. A process as claimed in any one of claims 5 to 7, characterised in that the area (25) occupied by the openings (23) is covered by an adhesive cover patch (24) removable by peeling.

9. A process as claimed in any one of claims 1 to 8, characterised in that the openings (23) are substantially circular.

10. A process as claimed in any one of claims 1 to 9, characterised in that the sachet (18) is formed of plastics sheet material (19) having paper or nonwoven fabric (20) laminated to its outer surface.

11. A process as claimed in any one of claims 1 to 10, characterised in that the sachet (18) has a total outer surface area within the range of from 18 to 200 cm^2.

12. A process as claimed in any one of claims 1 to 11, characterised in that the sachet (18) has a total outer surface area within the range of from 25 to 100 cm^2.

13. A process as claimed in any one of claims 1 to 12, characterised in that the weight of fabric conditioning composition (4) in the sachet (18) is within the range of from 1.5 to 12 g.

14. A process as claimed in claim 13, characterised in that the weight of fabric conditioning composition (4) in the sachet (18) is within the range of from 3 to 10 g.

15. A process as claimed in claim 14, characterised in that the weight of fabric conditioning composition (4) in the sachet (18) is within the range of from 5 to 7 g.

16. A process as claimed in any one of claims 1 to 15, characterised in that the fabric conditioning composition (4) has a particle size within the range of from 20 to 1000 µm.

17. A process as claimed in claim 16, characterised in that the fabric conditioning composition (4) has a particle size within the range of from 50 to 500 µm.

18. A process as claimed in claim 17, characterised in that the fabric conditioning composition (4) has a particle size within the range of from 80 to 300 µm.

19. A process as claimed in any one of claims 1 to 18, characterised in that the smallest dimension of the openings (23) is at least 3 times as great as the upper particle size limit of the fabric conditioning composition (4).

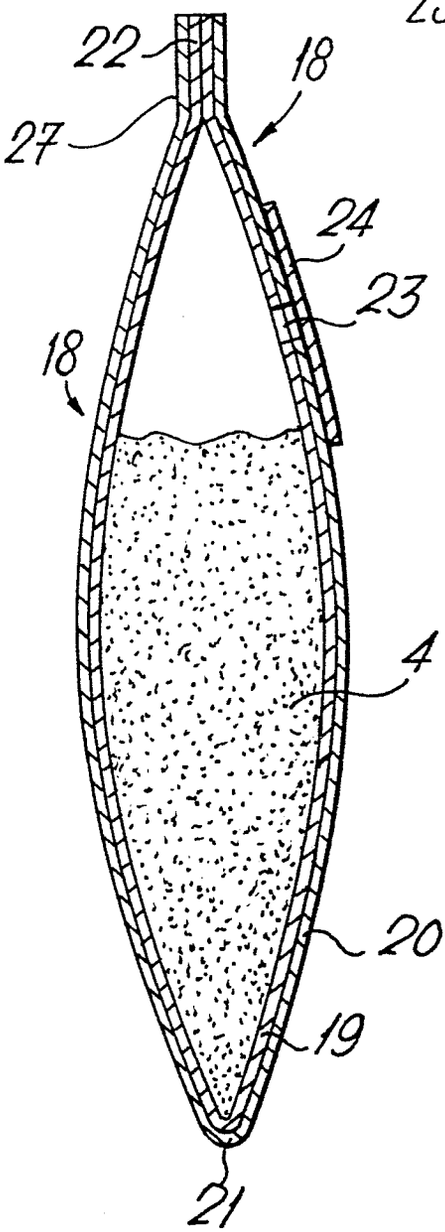
20. A process as claimed in claim 19, characterised in that the smallest dimension of the openings (23) is at least 7 times as great as the upper particle size limit of the fabric conditioning composition (4).

21. A process as claimed in any one of claims 1 to 20, characterised in that the fabric conditioning composition (4) comprises one or more water-soluble soaps of C_8 - C_{22} saturated or unsaturated fatty acids.

22. A process as claimed in claim 21, characterised in that the fabric conditioning composition (4) consists to an extent of at least 55% by weight of a blend of soaps of C_8-C_{22} saturated or unsaturated fatty acids, said soap blend containing at least 5% by weight of C_{12} soap, at least 5% by weight of C_{14} soap, at least 12% by weight of C_{16} soap and at least 20% by weight of C_{18} soap, the composition being in the form of a powder free of any protective coating.

23. A process as claimed in any one of claims 1 to 22, characterised in that the fabric conditioning composition (4) comprises from 5 to 45% by weight of a cationic fabric conditioning agent.

Fig. 2.



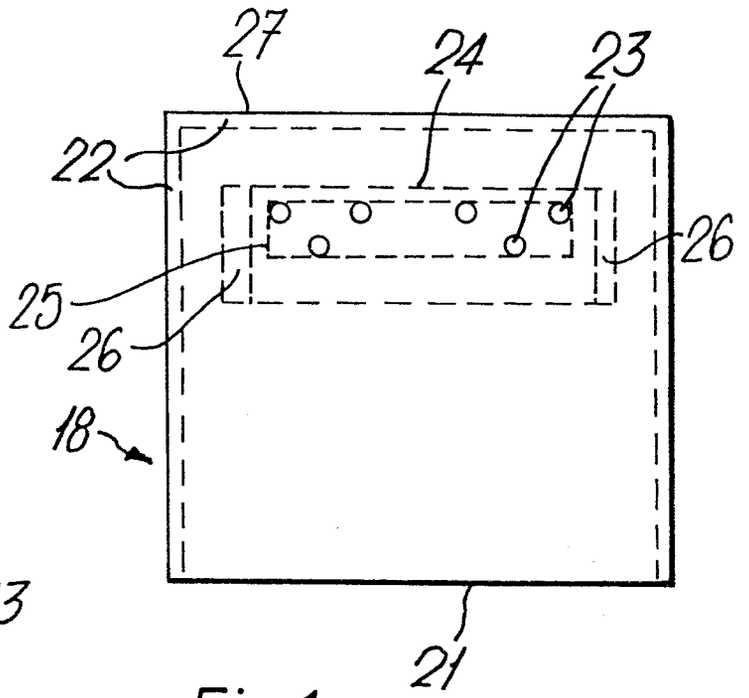


Fig. 1.