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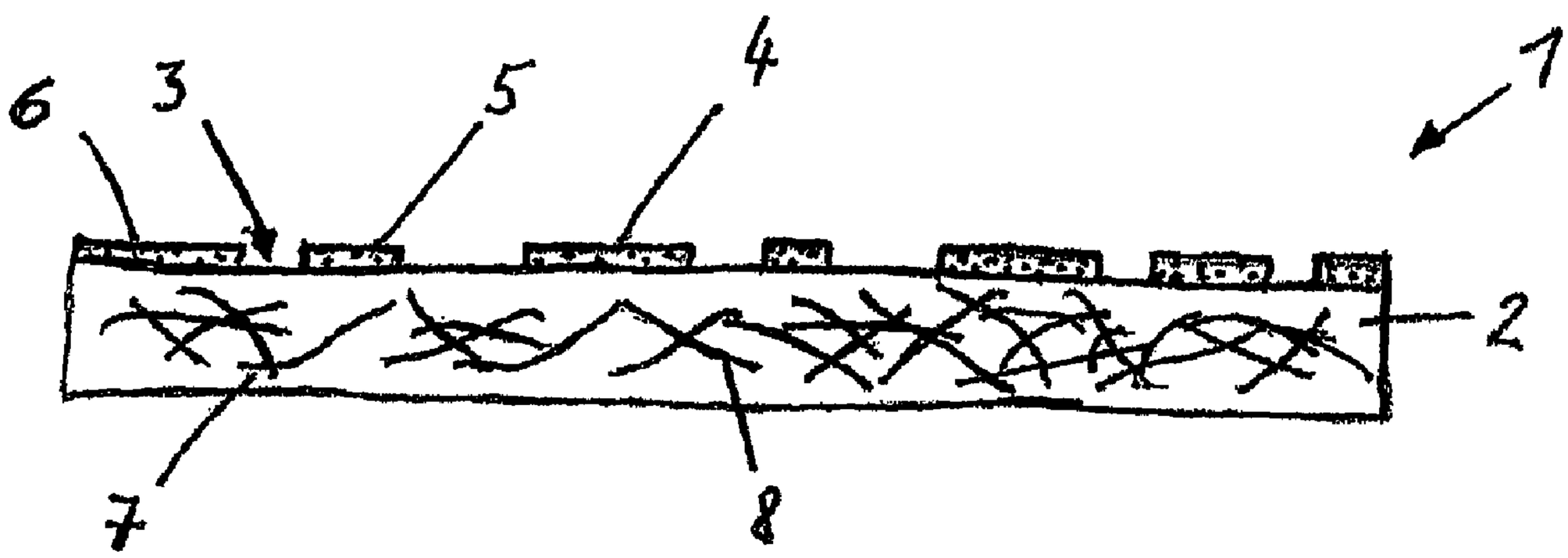

(57) Abrégé/Abstract:
Disclosed is a cleaning cloth (1) that is made of a planar textile structure (2) and is provided with at least one cleaning surface (3), on at least some parts of which a surface coating (5) is disposed. Said surface coating (5) is embodied as a printed pattern (4) and contains abrasive agents (6).

Abstract

Disclosed is a cleaning cloth (1) that is made of a planar textile structure (2) and is provided with at least one cleaning surface (3), on at least some parts of which a surface coating (5) is disposed. Said surface coating (5) is embodied as a printed pattern (4) and contains abrasive agents (6).

CLEANING CLOTH

Field of the Invention

The invention relates to a cleaning cloth made of a textile sheet which includes at least one cleaning surface, at least part of which is provided with a surface coating in the form of a printed pattern.

Background Art

Such cleaning cloths are known from DE 25 36 440. The known cleaning cloth is made of a textile sheet, for example a non-woven fabric. To improve the wear resistance, the cleaning cloth is provided with a surface coating which is provided on the surface of the non-woven fabric in the form of a raised printed pattern. Liquids on a surface can be wiped off by the printed pattern and absorbed by the absorbent non-woven fabric. The removal of firmly adhered dirt is however difficult because of the smooth surface of the printed pattern and of the non-woven fabric of the cleaning cloth.

Summary of the Invention

It is an object of the invention to further improve the known cleaning cloth so that the removal of firmly adhered dirt is improved.

In an aspect of the invention, there is provided a cleaning cloth made of a textile sheet, which includes at least one cleaning surface on which at least partially a surface coating formed as a printed pattern is provided, wherein the surface coating includes abrasive agents, and the amount of coating is between 15 and 100 g/m^2.

The surface coating includes abrasive agents for the solution of this object. The abrasive agents are firmly connected with the surface coating and improve the cleaning action of the cleaning cloth by way of their scouring effect. The cleaning action is improved especially with respect to dirt which is firmly adhered to the surface to be cleaned. The abrasive agents can be formed by abrasive particles. The abrasive agents can, for example, also be formed by surface profiles or hard fibers.

The textile sheet can be made of a non-woven fabric. Non-woven fabrics are simply and economically manufactured. Non-woven fabrics have a low surface weight and can be made to be absorbent.

The non-woven fabric can consist of a fiber material bonded by a binder. Latex, acrylate, phenolic resin, melamine resin or nitrilocaouchouc can be used as binder. In a

further embodiment, the fiber material can also be fixed by thermal fusion. The sheet is stabilized and the fibers bonded in the form of a sheet by way of the binder and/or the thermal fusion.

The abrasive agents can be formed by mineral and/or organic additives.

For example, quartz, aluminum oxide, silicone carbide, chalk or glass granulate can be used as mineral abrasive agents. Mineral abrasive agents are very durable and cost effective. Mineral abrasive agents have a high hardness and therefore provide a scratching scouring effect. Mineral abrasive agents are therefore especially suited for the removal of very strongly adhered dirt.

Non-mineral or organic abrasive agents are, for example, polyurethane, PMMA or nutshells. Non-mineral or organic abrasive agents are easily processed and are also cost efficient. The non-mineral or organic abrasive agents have a lower hardness than the mineral abrasive agents. They therefore have a non-scratching scouring effect and are especially suited for the cleaning of sensitive surfaces.

The surface coating can include polishing particles. The polishing particles can be, for example, sylicia. With the polishing particles, a cleaning cloth is achieved with only a slight abrasive action. Such a cleaning cloth is especially suited for the cleaning and polishing of sensitive objects, for example cutlery.

The ratio of the thickness of the textile sheet to the thickness of the surface coating can be between 40:1 and 3:1. A thin cleaning cloth results from these ratios, which can be economically manufactured and is space saving.

In one embodiment, the ratio is at most 10:1. Cleaning cloths manufactured in this range are especially suited for abrasively active cleaning cloths.

In another embodiment, the ratio can be at least 20:1. Cleaning cloths manufactured in this range are especially suited for polishing cleaning cloths.

The object of the invention is further achieved by a process for the manufacture of a cleaning cloth which includes the steps of:

manufacturing a textile sheet of a fiber material;

bonding of the textile sheet by application of a binder;

printing of a printing paste onto the textile sheet and application of abrasive agents, whereby the printing paste with the abrasive agents hardens into a surface coating.

The manufacture of the cleaning cloth requires only few process steps and is therefore simple and cost efficient. The printing paste can include a binder which can include latex, acrylate, phenol resin, melamine resin or nitrilocaouchouc.

In one embodiment of the process, the abrasive agents can be mixed with the printing paste, whereby the printing paste mixed with the abrasive agents is printed onto the textile sheet. The abrasive agents are thereby evenly distributed in the printing paste. In another embodiment of the process, the printing paste can be printed onto the textile sheet and the abrasive agents strewn onto the still wet printing paste applied to the textile sheet. The abrasive agents are thereby fixed in the region of the surface of the surface coating.

The cleaning cloth described above may be used as a disposable cleaning cloth. The cleaning cloth is easily and cost efficiently manufactured and requires little space because of its low thickness. It is therefore especially suited for use as disposable cleaning cloth.

Brief Description of the Drawings

Exemplary embodiments of the cleaning cloth in accordance with the invention are further described in the following by way of the figures. The drawings show in respectively schematic illustration in

FIGURE 1 the cleaning cloth in accordance with the invention in a top view; and

FIGURE 2 the cleaning cloth in accordance with the invention in cross-section.

Embodiments of the invention

Figure 1 shows a cleaning cloth 1 which is made of a textile sheet 2. The textile sheet 2 has a cleaning surface 3 on which a surface coating 5 is provided which is applied in the form of a printed pattern 4 onto the cleaning surface 3. A multitude of design possibilities exist for the surface coating 5 by way of the printed pattern 4. For example, different geometrical shapes such as diamonds, bars or triangles can be printed, even in combination, onto the cleaning surface 3. The surface coating 5 includes abrasive agents 6 which can be formed by mineral or non-mineral additives. Furthermore, polishing particles can be used as abrasive agents 6.

The cleaning cloth 1 can be used as a disposable cloth.

Figure 2 shows a cleaning cloth according to Figure 1 in cross-section. Abrasive agents 6, in this embodiment abrasively active particles, are bonded into the surface coating 5. The surface coating 5 covers the cleaning surface 3 only partially and is printed in geometric patterns onto the cleaning surface 3. This results in a further improvement of the cleaning action of the cleaning cloth 1. The textile sheet 2 is made from a non-woven fabric. The fabric material 8 of the non-woven fabric is bonded with a binder 7. The binder 7 can be latex, acrylate, phenolic resin, melamine resin or nitrilocaouchouc. The ratio of the thickness of the textile sheet 2 to the thickness of the surface coating 5 is 10:1. The amount of abrasive and/or polishing means is between 4 and 20% of the total weight of cleaning cloth 1. The portion of the printed paste is thereby between 10 and 40%. The application amount of the coating is between 15 and 100 g/m^2.

For the manufacture of a cleaning cloth 1 in accordance with the invention, a textile sheet 2 made of a fiber material consisting of natural or synthetic fibers is first produced. The textile sheet 2 is bonded by application of a binder 7, for example a latex emulsion or by thermal fusion using melt bonding fibers. A printing paste is mixed with abrasive particles for the manufacture of the surface coating 5. This printing paste is applied in a geometric printing pattern on the textile sheet 2. In a last process step, the printing paste hardens to the surface coating 5 mixed with the abrasively active particles 6, which can be achieved by heat treatment of the coated cleaning cloth 1.

CLAIMS:

1. A cleaning cloth made of a textile sheet, which includes at least one cleaning surface on which at least partially a surface coating formed as a printed pattern is provided, wherein the surface coating includes abrasive agents, and the amount of coating is between 15 and 100 g/m^2.

2. A cleaning cloth according to claim 1, wherein the abrasive agents are provided by abrasive particles.

3. A cleaning cloth according to claim 1 or 2, wherein the textile sheet is made of a non-woven fabric.

4. A cleaning cloth according to claim 3, wherein the non-woven fabric consists of a fiber material which is bonded by way of a binder or by hot melt bonding.

5. A cleaning cloth according to any one of claims 1 to 4, wherein the abrasive agents are provided by mineral and/or organic additives.

6. A cleaning cloth according to any one of claims 1 to 5, wherein the surface coating includes polishing particles.

7. A cleaning cloth according to any one of claims 1 to 6, wherein the ratio of the thickness of the textile sheet to the thickness of the surface coating is between 40:1 and 3:1.

8. A cleaning cloth according to claim 7, wherein the ratio is at most 10:1.

9. A cleaning cloth according to claim 7, wherein the ratio is at least 20:1.

10. A process for the manufacture of a cleaning cloth according to any one of claims 1 to 9, comprising the steps of:

manufacture of a textile sheet from a fiber material;

bonding of the textile sheet by application of a binder;

providing a printing paste having an amount of coating between 15 and 100 g/m^2;

printing of the printing paste onto the textile sheet and application of abrasive agents, whereby the printing paste with the abrasive agents hardens to a surface coating.

11. Process according to claim 10, wherein the printing paste is mixed with the abrasive agents and the printing paste mixed with the abrasive agents is printed onto the textile sheet.

12. Process according to claim 10, wherein the printing paste is printed onto the textile sheet and the abrasive agents are strewn onto the still wet printing paste applied to the textile sheet.

13. Use of a cleaning cloth according to any one of claims 1 to 9 as disposable cleaning cloth.

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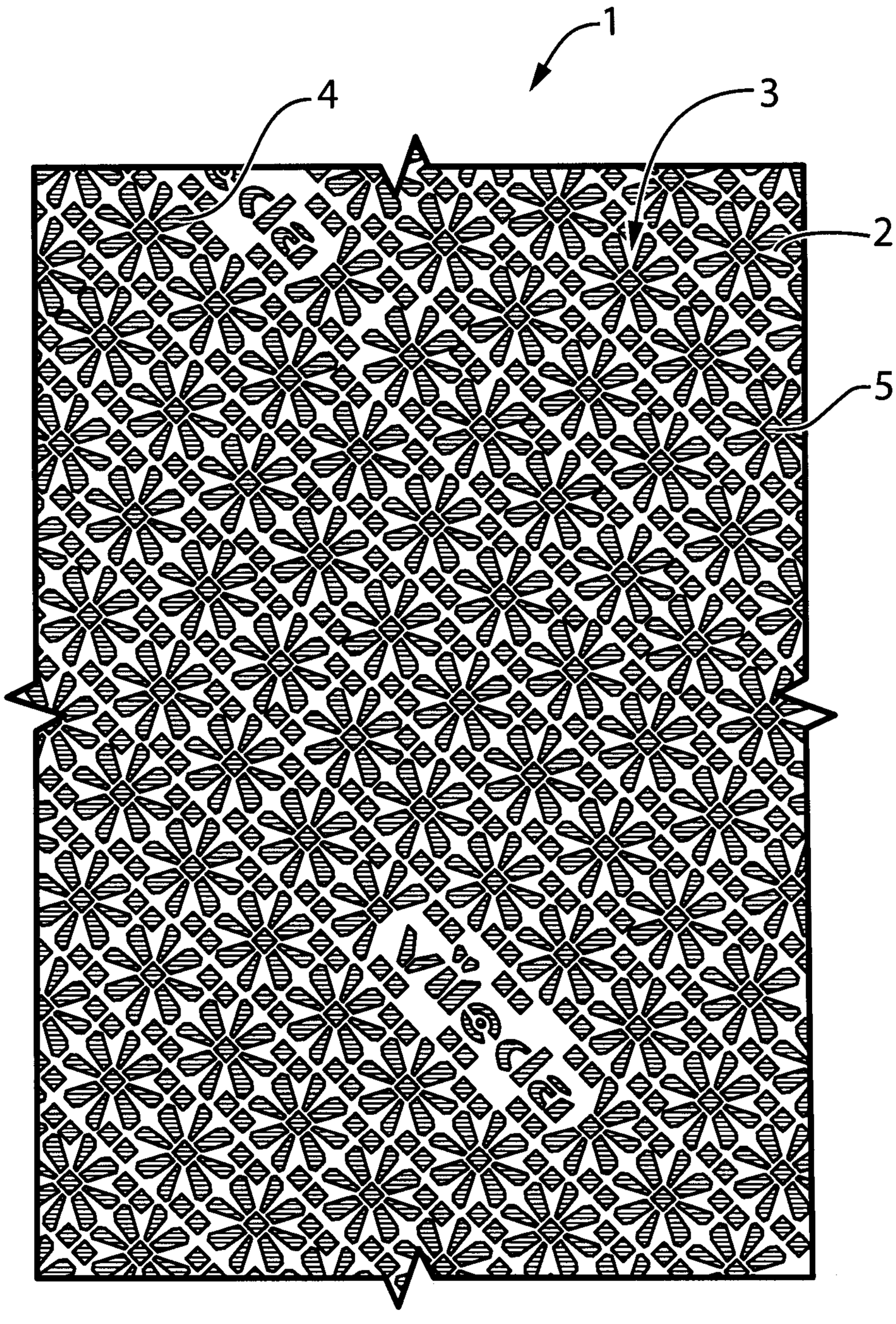
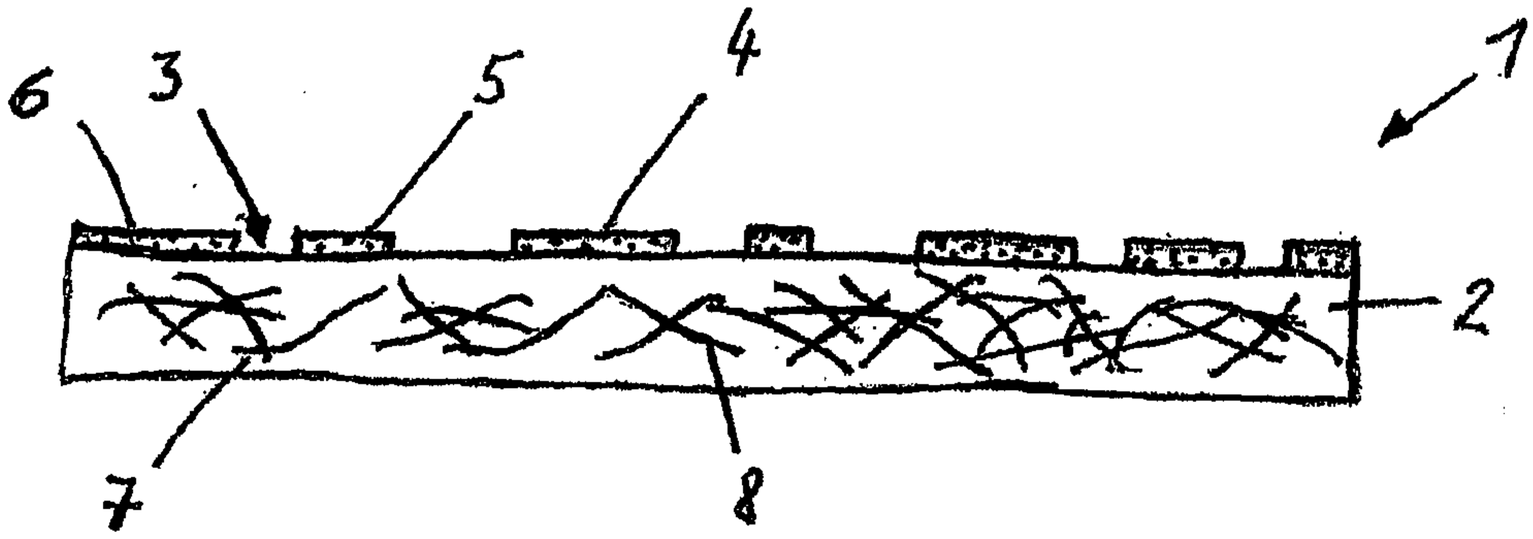
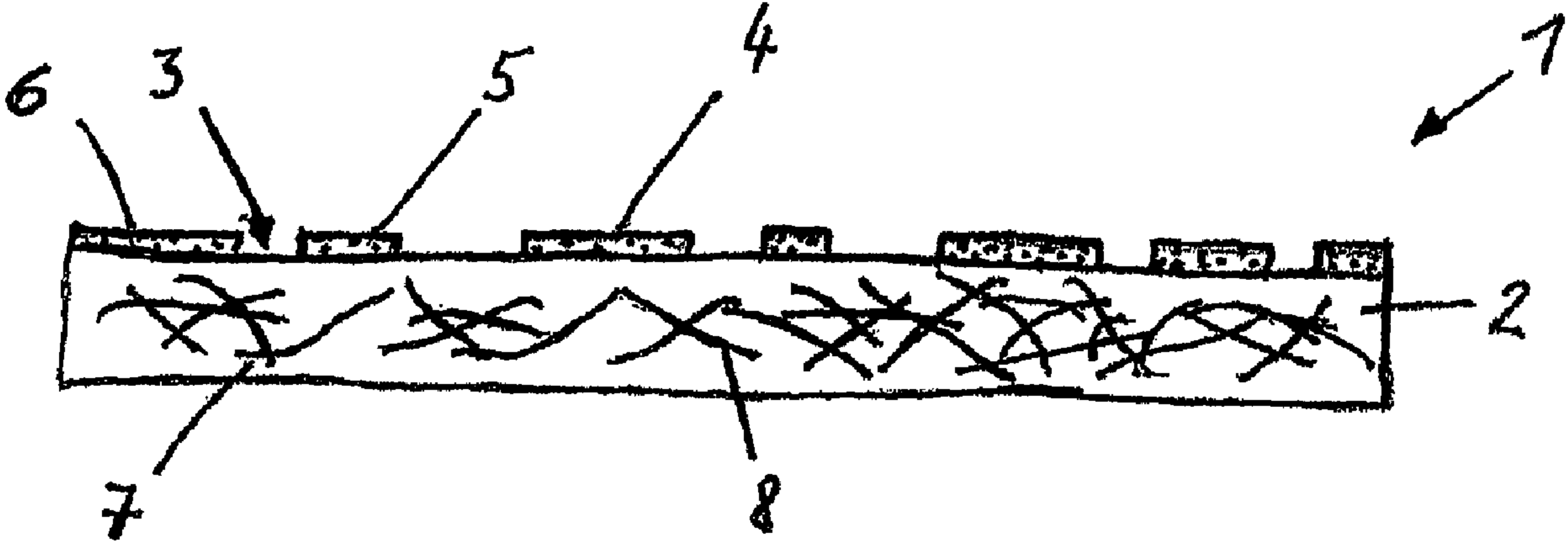


FIG.1

Fig. 2

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