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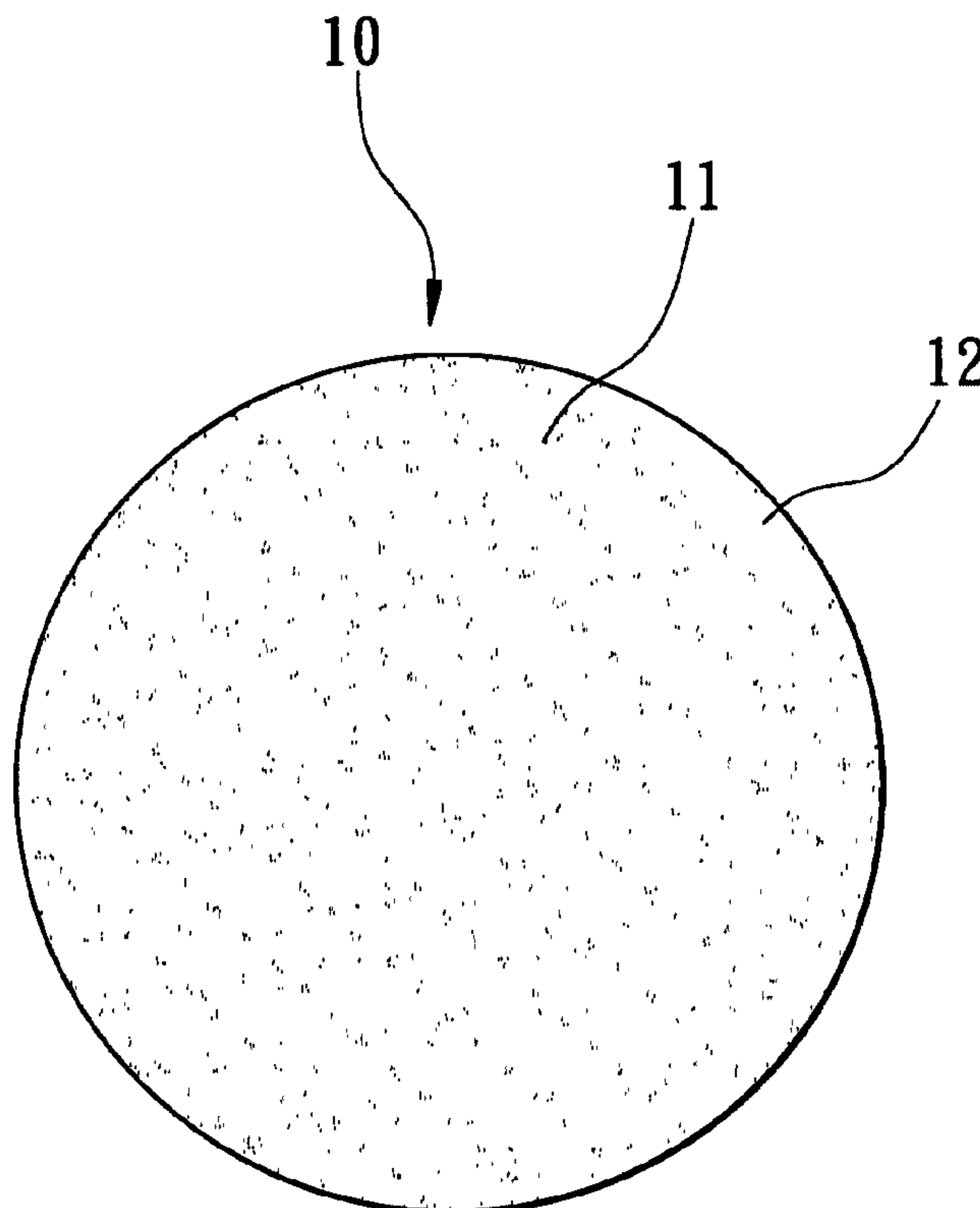
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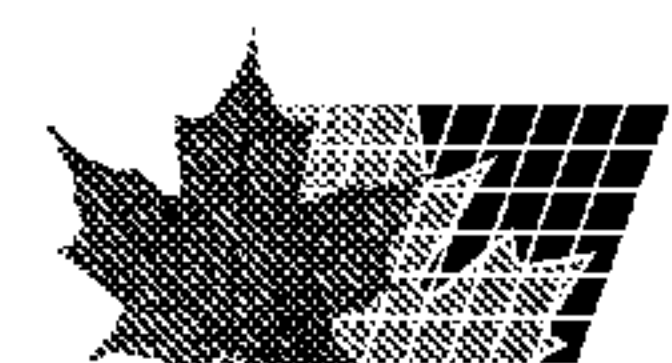
(54) Titre : COMPOSITION A BASE DE PVC ET VOLET EN PVC FABRIQUE AVEC CE PRODUIT

(54) Title: PVC-BASED COMPOSITION AND PVC LOUVER MADE THEREFROM



(57) Abrégé/Abstract:

A PVC-based composition contains a vinyl chloride polymer, a powdered wood, at least a filler, and a foaming agent.



ABSTRACT OF THE DISCLOSURE

A PVC-based composition contains a vinyl chloride polymer, a powdered wood, at least a filler, and a foaming agent.

5

Fig. 1

PVC-BASED COMPOSITION AND PVC LOUVER MADE THEREFROM

BACKGROUND OF THE INVENTION

1. Field of the invention

This invention relates to a PVC-based
5 composition and a PVC louver made therefrom.

2. Description of the related art

A conventional PVC (polyvinyl chloride) louver
is composed of a foamed PVC slate(s). The foamed PVC
slate is normally produced by extrusion foaming a
10 PVC-based composition into an expanded foam in the
form of a flat slab, and subsequently cooling,
embossing, cutting, and finishing the expanded foam
to form the desired PVC slate. The PVC-based
composition normally contains a vinyl chloride
15 polymer, fillers, such as calcium carbonate,
colorants, stabilizers, and lubricants, and a foaming
agent. The aforementioned louver has disadvantages
in that the appearance thereof is unnatural and
unattractive. Moreover, since reduction of PVC use
20 is currently an important environmental policy, there
is thus a need to reduce the content of PVC in the
PVC louver.

SUMMARY OF THE INVENTION

Therefore, it is an object of the present
25 invention to provide a PVC-based composition suitable
for use in producing PVC louvers.

It is another object of the present invention

to provide a process for producing a PVC louver.

It is yet another object of the present invention to provide a PVC louver that is superior to the prior art in terms of appearance, and that uses a lower
5 amount of PVC.

According to one aspect of the present invention, a PVC-based composition comprises: a vinyl chloride polymer; a powdered wood; at least a filler; and a
foaming agent.

10 According to another aspect of the present invention, a process for producing a PVC louver comprises the step of extrusion foaming a PVC-based composition to form an expanded foam, wherein the PVC-based composition contains a vinyl chloride
15 polymer, a powdered wood, at least a filler, and a foaming agent.

According to yet another aspect of the present invention, a PVC louver comprises at least a foamed PVC slate which is made of a PVC-based composition
20 that contains a vinyl chloride polymer, a powdered wood, at least a filler, and a foaming agent.

BRIEF DESCRIPTION OF THE DRAWINGS

In drawings which illustrate an embodiment of the invention,

25 Fig. 1 is a cross-sectional view of a pellet of a PVC-based composition embodying this invention; and

Fig. 2 is a fragmentary perspective view of a

foamed PVC slate embodying this invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Applicant has discovered that the appearance and the strength of foamed PVC slate used for making PVC
5 louver can be improved by feeding a PVC-based composition of this invention, which contains a vinyl chloride polymer (PVC), fillers, a foaming agent, and a powdered wood, into an extruder which is used in an extrusion foaming process for production of the
10 foamed PVC slate. The fillers are preferably selected from a group consisting of calcium carbonate, colorant, lubricant, stabilizer, and other modifiers. As illustrated in Fig. 1, a pellet 10 of the aforesaid PVC-based composition contains a PVC body 11, and a
15 powdered wood 12 distributed evenly in the PVC body 11.

The powdered wood employed in the aforementioned PVC-based composition can be obtained from waste wood shavings which are preferably ground to have a
20 particle size distribution from 70 μm to 150 μm , and which are preferably dried to have a bulk density from 100 g/liter to 145 g/liter. The weight percentage of the powdered wood is preferably in the range of from 5% to 40%, based on the total weight of the PVC-based
25 composition.

The foamed PVC slate of this invention is formed by pelletizing the PVC-based composition of this

invention, extrusion foaming the thus formed pellets to form an expanded foam in the form of a flat slab, cooling the expanded foam, embossing the cooled expanded foam, and cutting and finishing the embossed expanded foam. The surface of the foamed PVC slate of this invention is capable of possessing a surface pattern that is very similar to a wood grain pattern, thereby enhancing the appearance of the PVC louver that is obtained by processing the foamed PVC slates. Moreover, the strength of the foamed PVC slate is enhanced by virtue of fibers contained in the powdered wood. Fig. 2 illustrates a foamed PVC slate 20 of this invention. The foamed PVC slate 20 has an outer surface 21 which is embossed to have a surface pattern 22 that is similar to a wood grain pattern.

With the invention thus explained, it is apparent that various modifications and variations can be made without departing from the spirit of the present invention. It is therefore intended that the invention be limited only as recited in the appended claims.

I CLAIM:

1. A PVC-based composition, comprising:
 - a vinyl chloride polymer;
 - a powdered wood;
 - 5 at least a filler; and
 - a foaming agent.
- 10 2. The PVC-based composition of Claim 1, wherein the weight percentage of said powdered wood is in the range of from 5% to 40%, based on the total weight of said PVC-based composition.
3. The PVC-based composition of Claim 1, wherein said powdered wood is dried.
4. The PVC-based composition of Claim 1, wherein said powdered wood has a particle size distribution from
15 70 μm to 150 μm .
5. The PVC-based composition of Claim 1, wherein said powdered wood has a bulk density from 100 g/liter to 145 g/liter.
6. The PVC-based composition of Claim 1, wherein said
20 filler is selected from a group consisting of calcium carbonate, colorants, lubricants, and stabilizers.
7. A process for producing a PVC louver, comprising the step of extrusion foaming a PVC-based composition of Claim 1 to form an expanded foam.
- 25 8. The process of Claim 7, further comprising embossing said expanded foam.
9. The process of Claim 7, wherein the weight

percentage of said powdered wood is in the range of from 5% to 40%, based on the total weight of said PVC-based composition.

10. The process of Claim 7, wherein said powdered wood
5 is dried.

11. The process of Claim 7, wherein said powdered wood has a particle size distribution from 70 μm to 150 μm .

12. The process of Claim 7, wherein said powdered wood
10 has a bulk density from 100 g/liter to 145 g/liter.

13. The process of Claim 7, wherein said filler is selected from a group consisting of calcium carbonate, colorants, lubricants, and stabilizers.

14. The process of Claim 7, wherein said expanded foam
15 is in the form of a flat slab.

15. A PVC louver, comprising:

at least a foamed PVC slate which is made of a PVC-based composition of Claim 1.

16. The foamed PVC louver of Claim 15, wherein said
20 foamed PVC slate is formed by extrusion foaming.

17. The foamed PVC louver of Claim 16, wherein said foamed PVC slate is embossed.

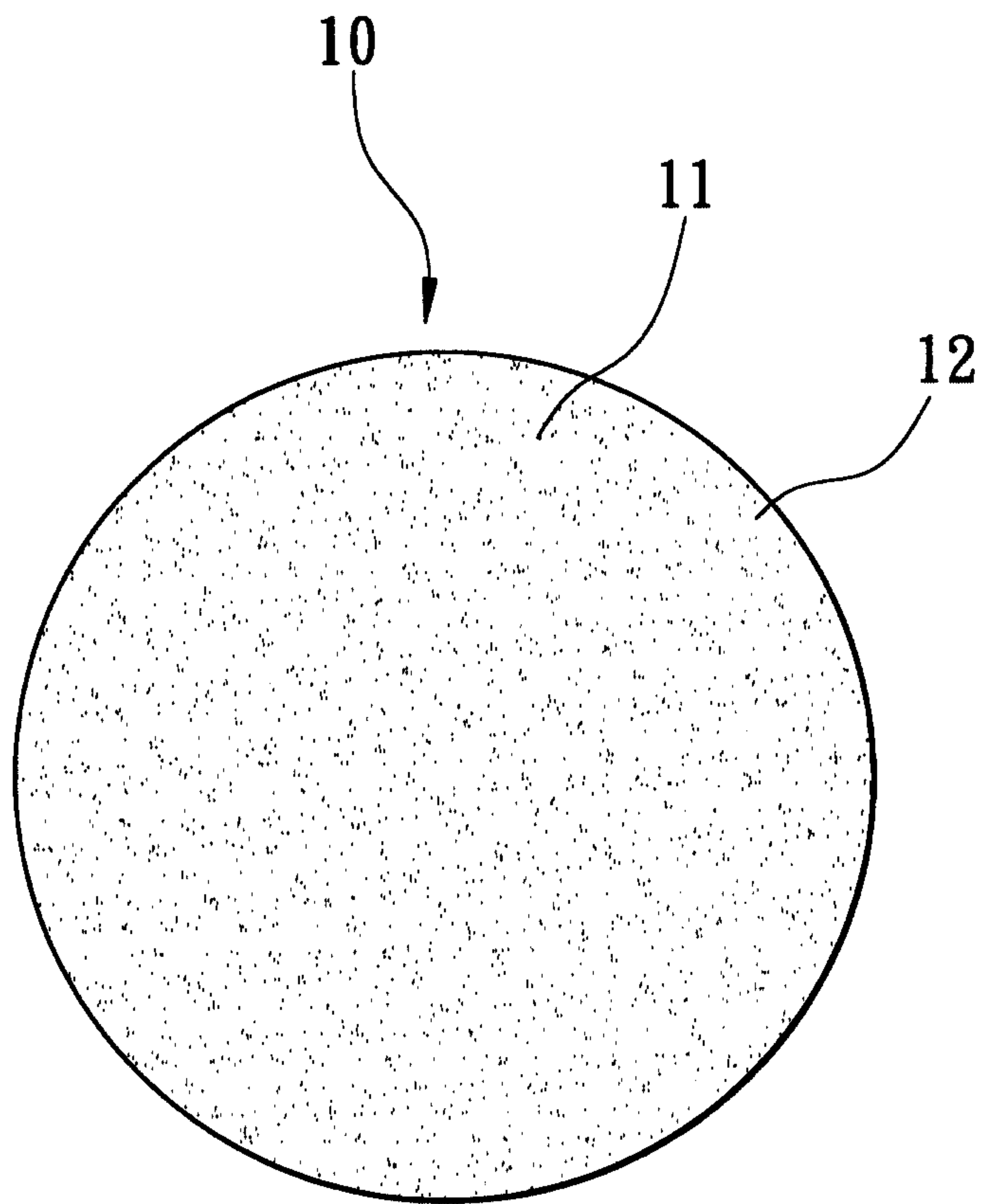


FIG. 1

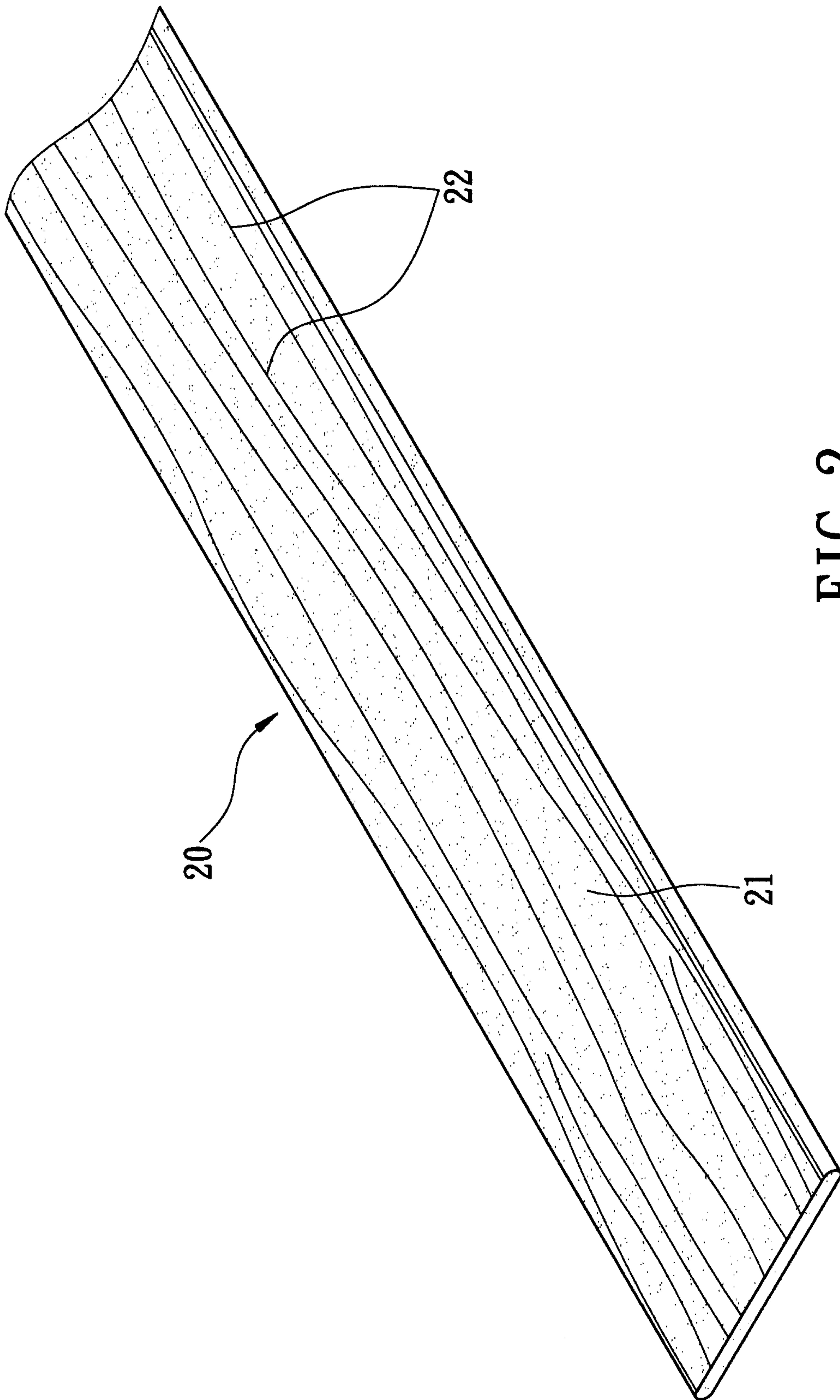


FIG. 2

