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ORNAMENTAL COMPOUND SHEET MATERIAL

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Fig. 1.

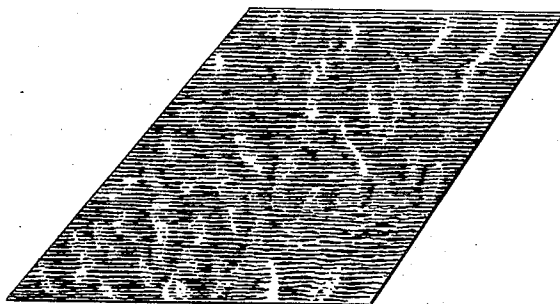
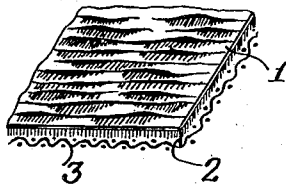


Fig. 2.



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ORNAMENTAL COMPOUND SHEET
MATERIAL

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6 Claims. (Cl. 154—2)

This invention relates to improvements in orna-
mental compound sheet materials, and more par-
ticularly to materials wherein a fabric is surfaced
with a transparent or translucent foil or the like.

According to the present invention laminated
materials exhibiting very desirable imitation pearl
or other pattern effects are obtained by backing
a transparent or translucent foil or similar ma-
terial with a pattern pile fabric. For most pur-
poses the foil or the like should be caused to
adhere to the pile fabric, e. g. by means of a
suitable adhesive, though in some cases, e. g. in
the case of wall panels, the pile may be merely
pressed up to and held against the foil or the
like.

The term "foil" when employed hereinafter in
the present specification is to be understood to
include films and similar materials, while the
term "transparent" is to be understood to include
translucent.

By means of the present invention laminated
materials may be obtained which exhibit mother-
of-pearl effects, such as have hitherto been ob-
tainable only by a complicated and expensive
process involving the incorporation of effect ma-
terials in the compositions from which the sheet
materials were produced. The materials obtained
according to the present invention are very suit-
able for use, for example, in lamp shades and
for the decoration of drums and other musical
instruments. Materials wherein the foil has a
basis of cellulose acetate or other relatively water-
resistant substance are also very suitable for uses
wherein resistance to washing or to humid condi-
tions is desirable, as, for example, for table tops
and as wall decorations in bathrooms.

The foil, which may be colourless or coloured
and may be embossed, may have a basis of re-
generated cellulose or nitrocellulose or a non-
cellulosic transparent substance, but materials
having a basis of an organic derivative of cellu-
lose, for example cellulose propionate, cellulose
butyrate, cellulose nitro-acetate, methyl, ethyl
and butyl celluloses, and particularly cellulose
acetate, have been found to be especially valuable.
Such materials, especially if they have a high
content of substituent groups, e. g., in the case
of cellulose acetate, corresponding to an acetyl
content of 56-58% or more, are relatively mois-
ture-resistant, which, as has been pointed out,
is of considerable value for certain purposes.
Moreover adhesion between such materials and
pile fabrics having pile yarns of a cellulose de-
rivative, which yield particularly valuable effects,
is very easily effected.

The pile fabric may be made of any suitable
material, e. g. regenerated cellulose artificial silk
or natural silk, but preferably fabrics are em-
ployed wherein the pile is made of cellulose ace-
tate or other organic derivative of cellulose. The
pile and the base of the fabric may both be of
the same substance or they may be different,
for example the pile may be made of cellulose
acetate yarn and the base of the fabric of cotton
or linen yarn. Pile fabrics of this nature having
a cotton or linen backing are particularly valu-
able when it is desired to stick the laminated
product to wood or other surfaces to which
cellulose acetate yarn does not itself adhere very
readily, since it is comparatively easy to effect
adhesion between cotton or linen material and
most other substances.

The pattern effect on the pile fabric may be
due solely to colour effects on a uniform pile,
i. e. a pile which if undyed would show no pattern,
or the pattern may be due to local differences in
the pile which would show even in an undyed
pile, e. g. differences in lustre, due, for example,
to the presence of cellulose acetate yarns and
regenerated cellulose yarns or of lustrous and de-
lustred cellulose acetate yarns, differences in the
lay of the yarns, as in a crushed pile fabric, or
in the thickness of the pile, as in a locally car-
bonized pile fabric. The pattern effects may
also be due to a combination of these causes. As
examples of pile fabrics which may be employed
may be mentioned embossed velvets, printed vel-
vets and metallized velvets, while for special ef-
fects double-faced velvets may be employed, the
foils being fixed to one or both of the velvet faces.
Particularly attractive imitation pearl effects may
be produced by the use of crushed velvets, either
coloured or white, in which the pile yarns are
laid in different directions in a more or less hap-
azard manner. Such fabrics may be produced
by pressing cellulose acetate pile fabrics with
suitable rollers in the presence of steam.

The ornamental sheet materials may also be
obtained from pile fabrics which do not show
a pattern, by pressing the foil on to the pile of
the fabric in such a manner that the lay of the
pile is deformed non-uniformly, thus giving a
haphazard pattern effect. For example the pres-
sure treatment with suitable rollers employed in
the production of crushed pile effects may be
applied to a pile fabric surfaced with a foil.

Adhesion between the pile fabric and the foil
may be effected by means of a suitable adhesive.
When a cellulose acetate foil is caused to adhere
to a pile fabric having a pile of cellulose acetate

yarns, which is the preferred process according to the present invention, adhesion may be effected by means of heat alone, for example by placing the foil on the pile surface of the fabric and pressing the two constituents together in a suitable heated press or passing them between heated rollers, or the foil and/or the pile may be moistened with a suitable softening agent and the constituents may then be pressed together with or without the use of heat.

Suitable softening agents for cellulose acetate include acetone, triacetin, diacetone alcohol and dioxane. Preferably a mixture containing a volatile solvent and a relatively low boiling solvent is employed, e. g. a mixture of acetone and diacetone alcohol, which may also contain a small proportion, e. g. 2-4%, of cellulose acetate.

Example

The following example illustrates the production of ornamental materials according to the present invention. One side of a cellulose acetate foil is sprayed with the following mixture:—

	Percent by weight
Cellulose acetate.....	2
Diacetin.....	1
Acetone.....	22
Benzol.....	15
Alcohol.....	10
Diacetone alcohol.....	50

The pile side of a crushed pile fabric having a cellulose acetate pile and a cotton backing is then pressed against the sprayed side of the foil so that adhesion between the pile and the foil is produced.

The accompanying drawing shows an ornamental compound sheet material according to the present invention, wherein Fig. 1 illustrates the compound sheet material as it appears nor-

mally, and Fig. 2 illustrates a portion of the compound sheet material on an enlarged scale. In the figures 1 is a cellulose acetate foil which is adhered to the cellulose acetate pile 2 of a pile fabric having a cotton backing 3.

Having described my invention, what I desire to secure by Letters Patent is:—

1. Ornamental compound sheet materials, which comprise a transparent foil stuck to the pile side of a crushed pile fabric.

2. Ornamental compound sheet materials which comprise a transparent foil having a basis of a cellulose derivative stuck to the pile side of a crushed pile fabric.

3. Ornamental compound sheet materials which comprise a transparent foil having a basis of a cellulose derivative stuck to the pile side of a crushed pile fabric in which the pile comprises yarns made of an organic derivative of cellulose.

4. Ornamental compound sheet materials which comprise a transparent foil having a basis of cellulose acetate stuck to the pile side of a crushed pile fabric.

5. Ornamental compound sheet materials which comprise a transparent foil having a basis of cellulose acetate stuck to the pile side of a crushed pile fabric in which the pile comprises yarns made of cellulose acetate and the backing comprises yarns made of cotton.

6. Process for the production of ornamental compound sheet materials, which comprises effecting adhesion between a transparent foil having a basis of an organic derivative of cellulose and the pile face of a crushed pile fabric in which the pile comprises yarns of an organic derivative of cellulose, by softening said transparent foil and said pile yarns by means of an organic solvent for the organic derivative of cellulose and pressing the foil and the pile fabric together.

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