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METALLIC LEAF WITH FLEXIBLE BACKING

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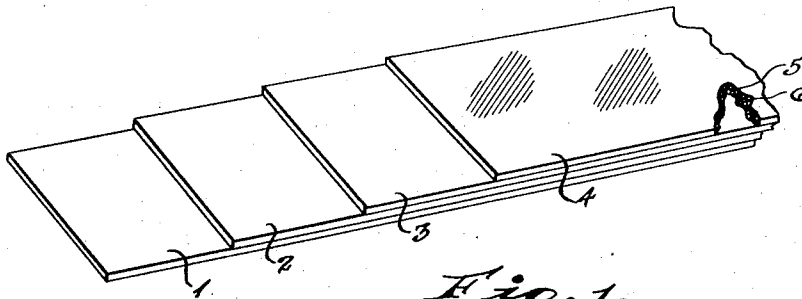


Fig. 1.

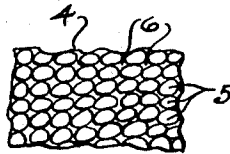


Fig. 2.

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METALLIC LEAF WITH FLEXIBLE BACKING

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4 Claims. (Cl. 154-46)

Our present invention relates to an improved gold or metallic leaf, sheet or ribbon, for use in the imprinting of leather, textile materials and the like.

5 In applying metallic leaf to a surface, the latter is sized and embossed, and the metallic leaf is deposited thereon, or the metallic leaf is pressed into the sized work, and the pressed design is then burnished, the applying dies being preferably heated.

10 The extension of metallic leaf application to different materials, and particularly artificial and imitation leathers, has encountered difficulty because of the nature of the surface. Thus, certain imitation leathers are thin and flexible, permitting bending and stretching when in use, and this bending and stretching produces a cracking or flaking off of the metallic leaf. Moreover, certain types of materials have surface irregularities which must be completely flattened out in order to provide a proper base for receiving the metallic leaf. This flattening out is particularly difficult when the irregularities are large, as for example with buckram.

25 It has heretofore been proposed to provide filler material as a base for the metallic leaf, by utilizing a coating of an intimate mixture of sizing and a filler material as an integral part of a metallic leaf product. This addition of a filler material which is intimately mixed with sizing does not, however, provide an elastic or flexible base for the metallic leaf, as the filler material remains in suspension in the sizing and the application of heat during the impressing of the metallic leaf liquefies the sizing and causes the sizing to exude around the edges of the die, thus defacing the edges of the ornamentation.

40 We have therefore devised a metallic leaf product with a backing which becomes plastic under heat, rather than liquid, thus retaining its form, and which after application to the work is elastic so that the imprinted surface may be bent or stretched to a substantial degree without cracking or flaking off the metallic leaf. Moreover, the novel backing bends or stretches to conform to any irregularities in the surface of the impressed material, thus increasing attaching contact with the surface, and at the same time accommodating itself to the irregularities thereof so as to obtain a smooth final impression. It is an important object of our invention to provide an elastic backing for a metallic leaf.

50 Artificial and imitation leathers are usually impregnated with pigments and filler material which have a tendency to run upon the application of

heat, and thus prevent the obtaining of a clean-cut impression. It is a further object of our invention to provide a flexible backing which retains or possesses a substantial amount of absorbent qualities to compensate for this running tendency.

With the above and other objects and advantageous features in view, to which reference will hereinafter be made, our invention consists of a novel method of manufacture and a novel metallic leaf product obtained thereby, more fully described in the detailed description following, in conjunction with the accompanying drawing, and more specifically defined in the appended claims.

In the drawing,—

Fig. 1 is a perspective view of a strip or ribbon of metallic leaf made in accordance with the invention;

Fig. 2 is an enlarged detail.

15 In manufacturing the novel product, a carrier strip 1 of paper, aluminum, or other suitable material is provided, glassine paper being preferred, and a coating 2 of releasable composition is placed on the face thereof, the preferred material being a wax such as beeswax, which has both adhering and burnishing qualities. Upon this coating a layer 3 of metallic leaf such as gold is applied, and a final coat 4 is placed on this layer, the final coat consisting of a suitable filler material 5 which is bonded together with a gum 6 that becomes plastic under heat. The filler material is preferably a comminuted substance capable of being crushed to extreme fineness, and of such nature that it will not stick through the thin metallic leaf or act as an abrasive with respect thereto; although various types of materials may be used, such as clays and metallic oxides in comminuted form, it has been found that titanium oxide or ochre are very suitable for the described purpose. These materials, when bonded together with a small amount of an adhesive such as rubber cement, or sizing such as French varnish, become elastic sheets or layers, instead of suspensions of filler material in sizing, the adhesive filling the interstices between the comminuted particles.

45 The backing resulting from the mixture of filler and bonding material described is a flexible monolithic sheet, which is elastic and therefore conforms to irregularities in the surface of the impressed material, which does not become liquid under heat and pressure and therefore does not exude around the edges of the die and instead maintains its solid form, and in addition retains a very large percentage of its absorbent qualities

due to the limited amount of bonding material, thus permitting and facilitating the application of metallic leaf to artificial and natural leathers and other materials having surfaces possessing a tendency to run. The backing thus becomes a tacky layer engaging the surface to be imprinted, which does not run when the impressing heat and pressure is applied, and retains its form and characteristics as a flexible base after the impression has been completed. The plastic character of the flexible backing adapts the sheet to use upon hard irregular surfaces thus extending the kinds of materials upon which embossed metal may be used.

15 In preparing the sheet, the carrier strip is first coated with wax, as by spreading liquid wax thereon obtained by dissolving beeswax in carbon tetrachloride or a similar solvent, the metallic leaf then being placed on the wax and the novel flexible backing then being applied to the leaf.

Although filler material has been intimately mixed with sizing heretofore, the filler has been in relatively minor proportion, and has remained suspended in the sizing or has become a surface coating as the sizing volatiles have evaporated. The described flexible backing is not a suspension of filler in sizing, and instead is a sheet of relatively solid form, obtained by bonding a large mass of suitable filler with sufficient sizing or cementitious material to obtain a plastic monolithic sheet.

25 The advantageous results produced by the novel product include a better effect because an improved base for receiving the metallic leaf is provided, which becomes tacky rather than fluid when the impressing heat is applied; a higher burnishing temperature may be used, and a more clean cut impression is obtained because the elastic or plastic sheet backing retains its form during the application of metallic leaf, does not exude around the edges of the die, and spreads so as to conform to irregularities of the mate-

rial impressed; a flexible base is thus provided for the impressed metallic leaf which permits a substantial bending and stretching of the imprinted material without breakage of the metallic leaf surface.

While we have described a specific constructional embodiment of our invention, it is obvious that desired changes in the materials used for the metallic leaf, for the releasable composition and for the filler and its bonding agent may be made, without departing from the spirit and the scope of the invention as defined in the appended claims.

We claim:

1. In a metallic leaf sheet having a carrier strip, a coat of releasable composition thereon, and a layer of metallic leaf on said coat, a flexible backing on said layer consisting of a plastic sheet formed of a mass of comminuted filler particles which are bonded together with an adhesive.

2. In a gold leaf sheet having a carrier strip, a coat of releasable composition thereon, and a layer of gold leaf on said coat, a flexible backing on said layer consisting of a plastic sheet formed of a mass of comminuted filler particles which are bonded together with an adhesive, the comminuted filler particles being of a color substantially that of the gold leaf.

3. In a gold leaf sheet having a carrier strip, a coat of releasable composition thereon, and a layer of gold leaf on said coat, a flexible backing on said layer consisting of a plastic sheet formed of a mass of comminuted particles of titanium oxide which are bonded together by an adhesive.

4. In a gold leaf sheet having a carrier strip, a coat of releasable composition thereon, and a layer of gold leaf on said coat, a flexible backing on said layer consisting of a plastic sheet formed of a mass of comminuted particles of yellow ochre which are bonded together by an adhesive.

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