

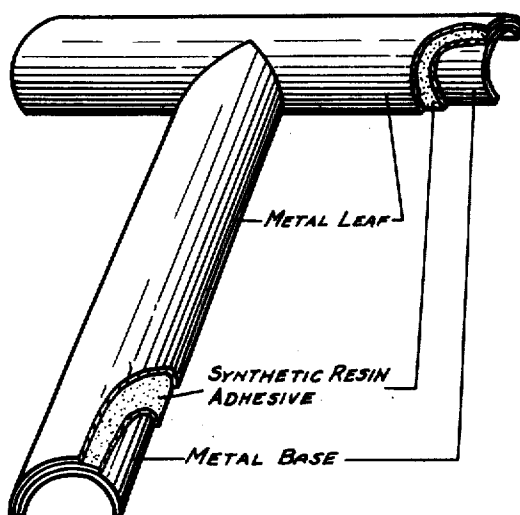
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METHOD OF MAKING SIGN ELEMENTS

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METHOD OF MAKING SIGN ELEMENTS

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4 Claims. (Cl. 41—37)

This invention relates to the art of applying metal leaf for the purpose of decoration or lettering, and has particular reference to sign elements having as a constituent element thereof a film or layer of metal leaf of metal foil. By the term "sign elements" are meant symbols, letters, numerals, designs, etc. which generally form parts or elements of a display sign. The term "metal leaf" or "metal foil" is intended to designate gold, silver, tin, copper, aluminum or other metal which can be beaten out into the form of a thin pliable foil or leaf by means of a gold-beating or similar process.

Sign elements of the foregoing type generally consist of a base of wood, glass, metal or other material coated with a thin layer or film of gold leaf. Prior to the present invention it was the usual practice to apply the metal leaf to the base over a tacky adhesive material which generally consisted of a natural resin lacquer or an oil varnish. This method requires a great amount of time as it takes about four hours for the adhesive to become tacky after it is applied and an additional fifteen hours for the adhesive to dry after the application of the gold leaf. The time is correspondingly increased if several coats of lacquer or varnish are used, as in the case where a protective coating is applied over the metal leaf. Another disadvantage of the prior art method is that the sign has a very limited life, particularly if it is continuously exposed to the weather.

A primary object of the invention is to provide a procedure for applying metal leaf to a sign element whereby the time for completing the operation will be reduced to a small fraction of the time previously required.

Another object is to provide a method for applying metal leaf to a sign element which will result in a sign having a greatly increased durability and period of usefulness as compared with signs made by prior art methods.

Still another object is to provide a sign element of greater durability than prior art signs and which will have an increased resistance to the weather.

The essence of the invention or of the combination which renders the foregoing objects possible of accomplishment resides in the use of a baking varnish containing an oil-soluble synthetic resin capable of being converted to an insoluble state as the adhesive for uniting the metal foil or leaf to the base.

In one of its preferred aspects, the method of the invention consists in providing a sign

element made in the form of a metal stamping, coating a surface thereof with a baking varnish containing a synthetic resin of the phenol-aldehyde type which is soluble in oil and which is capable of being converted to an insoluble state, applying the metal leaf and finally subjecting the assembly to a baking operation.

The single figure of drawing is a perspective view of a sign element in the form of the letter T, parts being broken away to reveal the various layers and being appropriately legended to indicate the various materials.

The base of the sign element itself is preferably a metal stamping having a convex surface as shown in the drawing. The stamping may be of any one of a number of possible metals or alloys. Copper, aluminum and brass are mentioned as suitable metals. The metal foil or leaf is preferably of gold, but other metals such as silver, tin, copper, aluminum, etc. are not outside the purview of my invention.

The adhesive is preferably a varnish or lacquer containing an oil-soluble synthetic resin of the type which can readily be converted by means of heat into an insoluble and infusible form. In practice I have found the 100% phenolic resin known to the trade as Bakelite XR-3360 to be eminently suitable for the purposes of the present invention. This resin has a specific gravity between 1.152 and 1.174 (Westphal balance method), a melting point between 175 and 205° F. (modification of the A. S. T. M. ball and ring method), and an acid number between 70 and 90, and differs markedly from other oil-soluble resins in that it does not remain permanently fusible on being heated. The resin may be incorporated into a lacquer or varnish with tung oil and a thinner such as xylol or solvent naphtha. A drier may also be added with or without a blown oil such as castor, fish or soya. The varnish may be obtained on the market already prepared under the designation of XV3431 (Bakelite Corporation).

In one of the practical applications of the invention, the process may be described as follows:

(1) The sign element is first cleaned so as to render it free of grease.

(2) A thin film of the drying varnish or lacquer is applied to the cleaned surface.

(3) The coated element is allowed to stand a short time until the coating becomes tacky.

(4) The metal leaf is applied in the usual manner.

(5) The sign element is placed in an oven

and the temperature is maintained at 180° F. for an hour and a half.

If thought necessary or desirable a top coat of clear varnish or lacquer may be applied to the product of the above described process and the baking step repeated. The top coat may be of the same composition as the adhesive.

The foregoing embodies the essential and distinctive thought underlying my inventive concept, but it is to be distinctly understood that the details thereof may be varied or combined with various other details without affecting the peculiar results obtained or sacrificing the principal advantages of the invention. It is to be further understood that in the following claims I intend to claim all the patentable novelty inherent in my invention.

I claim:

1. The method of applying metal leaf to a base which consists of the steps of coating the base with a baking varnish containing a synthetic resin, applying a layer of metal leaf directly on said varnish coating and subjecting the assembly to baking temperatures.

2. The method of applying metal leaf to a base which consists of the steps of coating the base with a baking varnish containing a synthetic resin of the phenol-aldehyde type, applying a layer of metal leaf directly on said varnish coating and subjecting the assembly to baking temperatures.

3. The method of applying metal leaf to a base which consists of the steps of coating the base with a baking varnish containing a synthetic resin, applying a layer of metal leaf directly on said varnish coating and baking the assembly at 180° F. for about two hours.

4. The method of applying metal leaf to a metallic base which consists of the steps of coating the base with a baking varnish comprising an oil-soluble phenol-aldehyde resin capable of being converted to insoluble form, applying a layer of metal leaf directly on said varnish coating and subjecting the assembly to baking temperatures.

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