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3,488,832

METHOD OF PREPARING A ZINC DIE CASTING
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4 Claims

ABSTRACT OF THE DISCLOSURE

A method of preparing a zinc die casting with a simulated wood grained finish thereon comprising the steps of: (a) preparing a mold die for use in forming the zinc die casting, (b) engraving the interior face of the die to supply it with an inverse wood grained texture such that it will impart a simulated wood grained surface to the zinc, (c) die casting the zinc, (d) applying at least one or more wood colored paint compositions to the grained surface of the die cast zinc, and (e) drying the paint composition; and, the product formed by the above composition.

BACKGROUND OF THE INVENTION

This invention broadly relates to the preparation of a simulated wood grained zinc die casting. More particularly this invention relates to a method of preparing simulated wood grained zinc die castings which may be used as television bezels, or other decorative items such as ash tray housings, door trims, and numerous other applications wherein decorative wood grained zinc die castings are desired. Still more specifically the method invention described herein has been found to be highly useful in preparing zinc die cast television bezels which have a wood grained surface appearance, such that to the eye it appears that the front frame or bezel of a television set is made of a finished wood having its associated highly pleasing appearance.

It has been conventional in the past, for example, in the manufacture of television sets, to utilize a wood grained exterior cabinet. If the cabinet itself were not made of wood an alternative was to laminate a veneer or plastic vinyl strip to the base material out of which the cabinet was formed. The laminated strip of the type conventionally known having a paper backing which could be peeled away in order to expose an adhesive material which had been used in applying the strip to the base material of a cabinet. The other side of the plastic strip had a simulated wood grained finish thereon. However, there have been many difficulties in attempting to produce a simulated wood grained finished cabinet in this manner, in that a technique of this type was and is very expensive and time consuming to carry out. Furthermore the laminated strips, or appliques, as they have been termed, were too easily peeled off and required border materials or frames surrounding the periphery of the laminated material in order to prevent same from peeling off. Still further, the prior technique of laminating a material to a base such as a cabinet in order to provide the cabinet with a wood grained surface appearance could not be carried out if the base material had significant contours therein.

In view of all the above there has been a distinct need in the art for a new method of forming a simulated wood grained product usable in the construction of television cabinet assemblies, and in particular the structural component of a television cabinet assembly known as the bezel.

STATE OF THE PRIOR ART

The prior art patents known to the applicant in regard to the invention described herein, and which patents re-

sulted from a preliminary search which was carried out are as follows: J. C. Vingren et al., 3,363,956; J. O. Black, 2,064,456; R. F. Brown, 1,685,396; H. E. Mattin, 1,922,548; E. J. Grison, 2,055,658; C. W. Latham, 2,254,298; L. Pritzker, 2,467,229 and W. G. Cryderman et al., 3,023,124.

It is a primary object of this invention to provide a method of preparing a simulated wood grained zinc die casting.

Another object of this invention is to provide an improved method of preparing a simulated wood grain finished die cast wherein the simulated wood grained part prepared may contain numerous contours therein.

Another object of the present invention is to provide a television bezel prepared from a zinc die casting having a simulated wood grained surface.

Still another object of the present invention is to provide a method of simulating the appearance and texture of wood on a zinc die cast surface suitable for use as a television bezel or as any other product wherein a simulated wood surface finish is desirable.

Other objects, features and advantages of the present invention will become apparent from the subsequent description and the appended claims.

SUMMARY OF THE INVENTION

Briefly stated, the present invention comprises a method of preparing a zinc die casting with a simulated wood grained finish, comprising the steps of: (a) preparing at least one mold die for use in forming the zinc die casting, (b) engraving the interior face of the die with an inverse wood grained texture such as that it will impart a simulated wood grain surface to the zinc, (c) die casting the zinc, (d) applying at least one wood colored paint composition to the grained surface of the die cast zinc, and (e) drying the paint composition and, the product formed by the above method.

DESCRIPTION OF PREFERRED EMBODIMENTS

A specific description will now be given of the method of preparing a simulated wood grained zinc die casting in accordance with the invention herein, however, it should be understood that this description is illustrative only and it should not be taken as limitative of the invention herein which is to be limited only by the appended claims.

First a mold die or die facing for use in forming the zinc die casting is prepared. The interior mold face of the die is then textured such that the die when forming the zinc casting supplies it with a wood grained surface. By this it is meant that the interior face of the die is supplied with an inverse wood grained texture such that when the die is brought into contact with the casting the casting is then left with indentations therein to give the surface of the casting a grained appearance similar to that of wood.

The texturing of the interior face of the die is preferably carried out by a process that may be termed engraving or photoengraving. One suitable technique of engraving or photoengraving to form a die face which will properly impart a grained surface to a zinc die casting is set forth in U.S. Patent No. 3,052,581 issued to W. J. Gutknecht. This technique of photoengraving the interior face of the die with an inverse wood grained texture such that it will impart a simulated wood grain surface to the zinc is the preferred form of preparing the interior face of the mold die.

It should be understood, however, that while engaging is the preferred method of forming an inverse wood grained texture on the interior face of the die, that there are also other techniques of carrying out this step of the invention, and as an example, the interior face of the die

may be supplied with an inverse wood grained texture by hobbing. Still further, it should be further understood that a wood master may be used in forming a mold facing thereover such that the die facing formed over the wood master in a sequence of one or more steps will leave the mold die facing with the appropriate inverse wood grained texture.

After the interior face of the die has been prepared such that it has an inverse wood grained texture, the next step of the method herein is to carry out the die casting of the zinc object which is to be used in forming the final finished simulated wood grained zinc die casting. The shaped article of the die cast zinc may of course be any desired shape, however, in particular the method invention herein has been found highly suitable for forming simulated wood grained zinc die castings which are usable as television bezels in the construction of television cabinet assemblies.

The shaped zinc die casting is then removed from the casing operation and final decoration of the grained surface of the zinc die casting is proceeded with. The decoration is important to successful practice of the invention and is carried out as follows.

The grained surface of the zinc is spray painted with a base coating generally of a light brown color. Subsequently, the base coat is baked at a temperature of approximately 300° F. to dry same.

The paint composition used herein may suitably be acrylic based paints, urethane based paints or alkyd based paints. From a preferred standpoint best results to date have been obtained with acrylic based paints. It should also be understood that the paint compositions used herein may be of the air drying type or they may be dried at elevated temperatures. From a practical and economical standpoint it is normally preferred to dry the paint compositions herein at an elevated temperature. Generally stated, the temperature range for drying of the paint compositions herein should be within the range of 120° F. up to about 410° F.

Subsequent to drying the initial base coat, a second color coating composition can satisfactorily be spray painted over the first coating and generally this second color coating is considerably darker brown in appearance. This second color coating is then selectively removed, for example, by wiping off with a dry brush, cloth, etc. in order to give a burnished wood appearance to the grained zinc. Specifically, this second color coating is then dried at a temperature of approximately 300° F., however, as mentioned above, the drying temperature is not particularly critical and may vary over a wide range (as specifically set forth above) depending on the particular paint composition used, etc.

Next, application to the painted zinc casting of a clear protective coating material can satisfactorily be made in order to protect the simulated wood appearance on the zinc. Numerous such clear protective coating compositions will be apparent to those skilled in the art after review of this disclosure, and for example, a clear urethane based or acrylic based protective finishing material may be used.

Lastly, the final protective coating material is dried and the drying thereof may be carried out at elevated tem-

perature or at room temperature, dependent upon the properties of the particular clear protective coating composition used.

While it will be apparent that the preferred embodiments of the invention disclosed are well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claims.

What is claimed is:

1. A method of preparing a zinc die casting with a simulated wood grained finish, comprising the steps of:

(A) preparing at least one mold die for use in forming the zinc die casting,

(B) photoengraving the interior face of the die with an inverse wood grained texture such that it will impart a simulated wood grain surface to the zinc,

(C) die casting the zinc,

(D) applying at least one wood colored paint composition to the grained surface of the die cast zinc,

(E) drying the paint composition, said paint composition being selected from the group consisting of acrylic, alkyd, or urethane paints, and

said drying step (E) being carried out at a temperature between about 120° F. and about 410° F.

2. The method of claim 1 wherein:

said wood colored paint composition applied in step (D) is generally of light brown color,

and said method also comprising the steps of:

applying a second generally dark brown wood colored paint composition to the grained surface,

selectively removing a portion of the dark brown colored paint composition, by wiping off or the like, to leave a burnished wood appearance, and drying at an elevated temperature.

3. The method of claim 1 wherein the product has further applied thereto a clear protective coating composition to the finished simulated wood grained zinc die casting.

4. The method of claim 2 wherein there is applied a clear protective coating composition to the finished simulated wood grained zinc die casting.

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117—49; 164—6