Nov. 14, 1939. W. D. FORD 2,180,002

MOLDED BODY OF SYNTHETIC RESIN CONTAINING PHOTOGRAPHIC DESIGNS

Filed Oct. 16, 1936

Fig. 1.

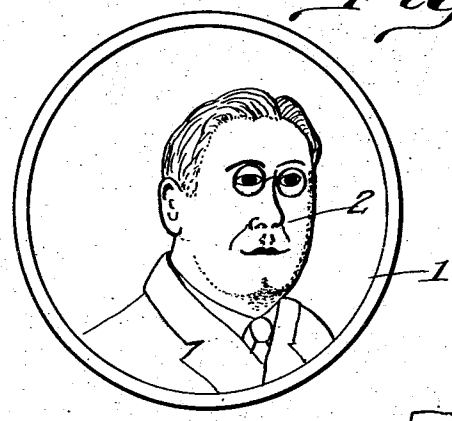


Fig. 2.

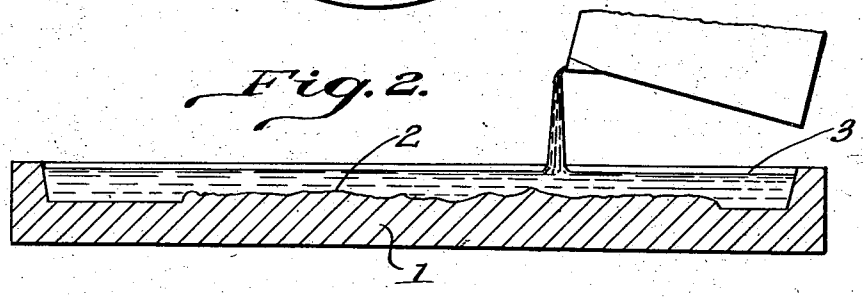


Fig. 3.

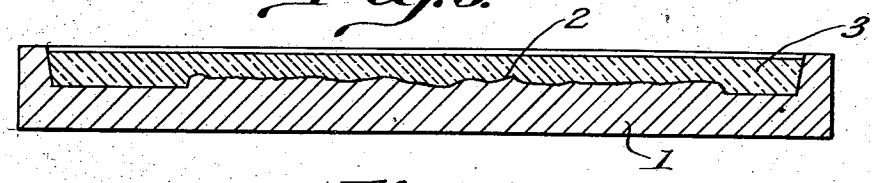
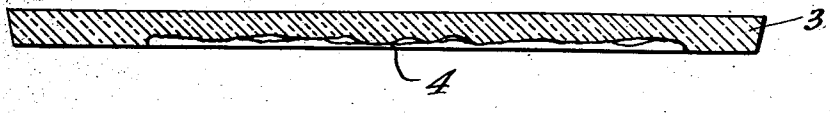


Fig. 4.



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MOLDED BODY OF SYNTHETIC RESIN CONTAINING PHOTOGRAPHIC DESIGNS

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Application October 16, 1936, Serial No. 105,987

2 Claims. (Cl. 41—24)

This invention relates to the production of moldable bodies composed of synthetic resin compositions and containing photographically reproduced relief or intaglio designs, the said body possessing such transparency and/or translucency and variations in thickness as to provide contrasting light and shadow regions by which the designs appearing therein may be clearly viewed with unusual detail and definition.

For a further understanding of the invention, reference is to be had to the following description and the accompanying drawing, wherein:

Fig. 1 is a plan view of a mold wherein one of the surfaces of the mold contains a design in relief, said design having been produced by a photographic process;

Fig. 2 is a vertical cross sectional view taken through the mold and showing the step of pouring a synthetic resin in a molten state on the design bearing surface of the mold;

Fig. 3 is a similar view of a mold with the synthetic resin layer thereon following heat treatment;

Fig. 4 is a vertical sectional view taken through the molded resin following the release of the latter from the mold surface.

Referring more particularly to the drawing, the numeral 1 designates a ceramic body or mold. In the present instance, this body or mold is in the form of a plaque, slab or plate, but it is obvious that the same may possess any desired physical outline in accordance with the character of the final article to be reproduced thereby. Usually, the body or mold 1 is formed from plaster and produced by casting. On its upper surface, the said body or mold is provided with a design, indicated at 2, which may be either in relief or intaglio. This design may constitute a reproduction of the photograph of an individual, or any other physical object, such as a drawing, tapestry or fabric. In other words, any design capable of being photographed.

To produce such a design in the body of the mold 1, I preferably use the gelatin film process, such as that set forth in the prior patents of Luchter 710,106, Monteath 1,516,199, or as described in Walls Dictionary of Photography (American Photographic Publishing Company) page 73. Briefly described, such a gelatin film process comprises the steps of effecting actinic printing through a photographic negative on a bichromated gelatin film while the film is carried by a glass plate. The exposure of the film to the action of light through the photographic negative results, after the immersion of the film in a water bath, in the swelling of such portions of the film which have been least exposed to the action of light. Following the development of such a film, bearing the photographic image thereon in relief, a mold or other body, such as indicated at 1, is formed by pouring on a confined surface of the film a slip comprising a moldable material such as plaster of Paris. This results in the reproduction in intaglio, within the surface of the mold contacting the film, a design as indicated at 2. If the design is desired in relief, a second mold is reproduced from the first mold.

In accordance with the present invention, following the casting of the mold 1 with a desired photographic design thereon, either in relief or intaglio, I apply to the design bearing surface of the mold when the latter is in a heated state, a flowing molten body composed of a synthetic resin. Resins suitable for this purpose are quite numerous and produced by different processes. Best results, however, are obtained by the use of a transparent or translucent resin containing more or less color. Such resins as those of the phenol-formaldehyde or urea-formaldehyde type may be employed as well as those which result from the treatment of milk products. Many other types of synthetic resins may be advantageously utilized, it merely being necessary to employ any synthetic resin which upon finally hardening will possess substantially transparent properties.

The resin in a heated fluid state is, as shown in Fig. 2, applied to the design bearing surface of the mold and conforms closely to the contour and irregularities therein. After being so applied, the mold and the synthetic resin layer 3 thereon are finally heat treated in a baking oven or kiln, the resin hardening and assuming its final form. At the conclusion of the hardening period, the resin body may be readily separated from the mold, the said body of resin bearing on one surface thereof a reverse reproduction 4 of the design appearing on the mold. It will be understood that it is not necessary to separate the resinous body from the mold, but the two may be maintained together, the mold serving as a backing for the resinous body. By reason of the variations in thickness caused by the presence of the design in the resinous body, color intensity variations in the latter take place when the same is viewed and subjected to light. These color variations emphasize the design and are the optical result of the variations in transverse thickness of the resin. Thus the thicker portions of the resin are of a darker color than the

thinner portions, but these areas merge into one another so as to properly blend the light and shadow effects and to enable the designs to be reproduced and viewed with unusual detail.

What is claimed is:

1. A cast color-containing substantially transparent body of synthetic resin composition having an undulous photographic design molded in the inner surface thereof, the obverse surface of said body being smooth, regular and unbroken, the transparency and varying thickness of said body in the area of said design producing light and shadow variations to render the detail of the design clearly viewable through said body from said obverse surface.

2. A cast substantially transparent body of synthetic resin composition having an undulous photographic design molded in the inner surface thereof, the obverse surface of said body being smooth, regular and unbroken, the transparency and varying thickness of said body in the area of said design producing light and shadow variations to render the detail of the design clearly viewable through said body from said obverse surface.

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