May 21, 1935. H. H. HARRIS 2,001,725

ORNAMENTAL PANEL AND THE LIKE OF RUSTLESS STEEL AND VITREOUS ENAMEL

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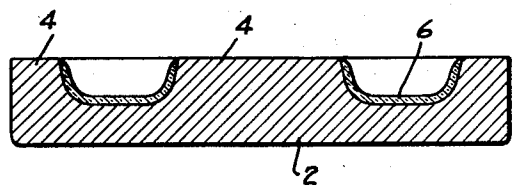

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ORNAMENTAL PANEL AND THE LIKE OF RUSTLESS STEEL AND VITREOUS ENAMEL

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4 Claims. (Cl. 41—30)

My invention relates to ornamental panels and the like of rustless steel and vitreous enamel. According to my invention, a casting is made of material that is noncorrodible on exposure to the atmosphere, such as stainless steel, steel containing around 8% nickel and around 18% chromium and the like.

The casting contains a design in relief, the relief part being of such form that it can be readily ground and polished as a whole, as for example, for plaques containing designs the relief part may be in one plane; for mouldings, in a cylindrical surface, and the like.

The molding pattern for flat surfaces may advantageously be of linoleum, which is waterproof and will not shrink or swell and is easily routed out in the parts to be recessed.

The surface of casting other than the relief design is recessed. High temperature vitreous enamel is applied, and the casting is subjected to temperature sufficient to bake the enamel, as for example, a temperature of 1200°–2150° F. according to the baking temperature requirements of the particular enamel. The enamel may be a single color throughout the recessed parts or variously colored parts may be provided, if desired.

In case the enamel is applied to only the recessed parts the piece may be finished by buffing or other polishing treatment. If the enamel is applied all over, as by dipping, then the enamel is ground off the relief part which is to show the exposed gleaming metal and the metal is then polished.

The accompanying drawing is a cross-sectional view of a flat form of panel embodying my invention. Reference character 2 is applied to the panel body. The polished plane surfaces 4, 4 are surfaces of the body metal, and recessed parts of the design in the body face are coated with the glass or vitreous enamel material or materials as indicated at 6.

By making plaques containing designs and other articles in the manner described, the finishing is confined to the even relief design part, and the recessed parts need none of the usual expensive polishing and other finishing, but only the application of enamel and baking, and a very beautiful and permanent object, such as a panel, rail, molding, sign or the like, is produced at minimum treatment cost.

In case of steels requiring high temperature heat treatment such as 8% nickel, 18% chromium steel, the enamel can be chosen so as to bake at approximately the temperature and time required for heat treatment and thus the heat treatment and enamel baking can be carried out in the one operation. With such a steel as just referred to an enamel baking at temperatures ranging from about 1400–2200° F. is well adapted.

One good enamel having a melting point of about 2000° F. contains the following constituents:

	Percent
White lead	45.01
Feldspar	25.74
Zinc oxide	4.95
Quartz or flint	13.86
Calcium carbonate	5.94
Iron oxide	1.5
Cobalt oxide	3.0

Modifications can be resorted to coming within my claims.

I claim:

1. Ornamental article exposed to the weather consisting of a body of alloy steel containing chromium in sufficiently high proportion to resist corrosion by the weather and adapted for heat treatment at temperatures over about 1200° F., said body having exposed raised portions presenting the alloy body material to the weather at their surfaces, said body also having lower or recessed portions, and enamel of melting point over 1200° F. applied to the lower parts of the metallic body at a temperature adapted for melting the enamel whereby the metallic body is heat treated.

2. Article as in claim 1 wherein the coating applied to the recessed parts of the alloy body being heat treated is of enamel melting at about 1200–2150° F.

3. Article as in claim 1, and in which the stainless alloy steel body that is heat treated contains chromium in the general neighborhood of 18% and nickel in the general neighborhood of 8%.

4. Article as in claim 1, and in which the coating applied to the recessed parts is of enamel melting at about 1200–2150° F. and the stainless alloy steel body that is heat treated contains chromium in the general neighborhood of 18% and nickel in the general neighborhood of 8%.

HENRY H. HARRIS.