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C. M. ANDRES

1,973,740

FINISH AND METHOD OF PRODUCING SAME

Filed March 14, 1931

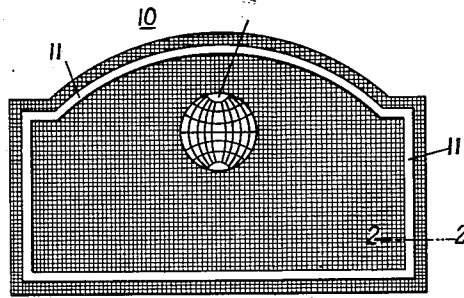


FIG. 1

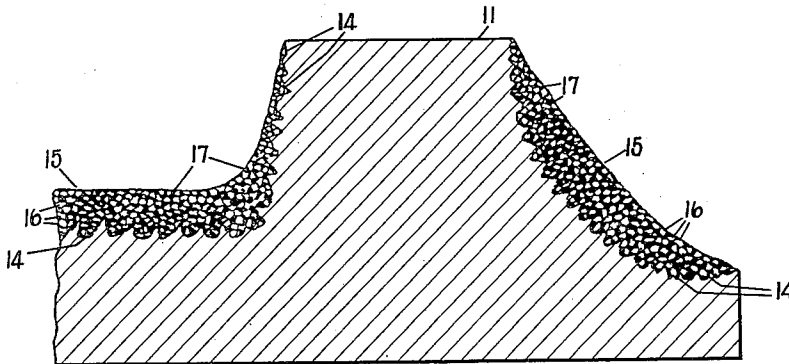


FIG. 2

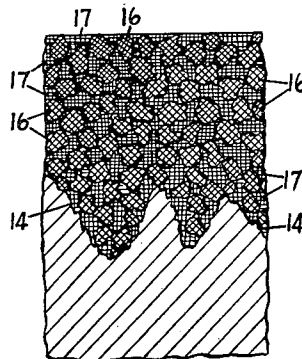


FIG. 3

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UNITED STATES PATENT OFFICE

1,973,740

FINISH AND METHOD OF PRODUCING
SAME

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2 Claims. (Cl. 91—70)

The present invention relates to finishes for metal or other surfaces and method of producing the same and especially to finishes for the surfaces of parts and accessories of elevator installations.

In recent years, considerable improvement in the architectural treatment of buildings has been attained. The appearance of the elevators of these buildings is an important factor in this treatment, inasmuch as the cabs, doors and various controls and accessories are visible to the users of the elevators. Not only is the design of these various parts important, but the finish of the parts is important as well. Various pleasing effects may be obtained by proper matching and harmonizing of the finishes of these parts. Various materials are employed to obtain these finishes, including lacquers, enamels, paints, and color varnishes. It is desirable that the finishes should maintain their original appearance and condition. The present invention is directed to finishes that preserve their original character with little or no maintenance.

One feature of the invention is to provide a finish that can be produced in any one of a number of colors and color combinations.

Another feature of the invention is to provide a finish that is exceedingly durable.

Still another feature resides in the process of producing such a finish.

Other features and advantages will be apparent from the following description and appended claims.

The invention involves roughening the surface of the body to be finished, in the event that the surface is not already in a sufficiently roughened condition, forming a porous deposit of a selected metal on said surface, and depositing a selected surfacing material onto the surface and into the pores of the deposited metal.

The invention is particularly applicable to metal surfaces. In carrying out the invention, as applied to metal, the metal surface, if not already roughened, is placed in a roughened condition, as by sand-blasting, then molten particles of a selected metal are sprayed onto said roughened surface to form a porous coating, and then a surfacing material, such as a lacquer containing the desired color pigment, is applied. The surfacing material penetrates the metal coating, owing to the porous condition of the coating, so that the deposited metal takes the wear and protects the surfacing material.

In the drawing:

Figure 1 is a front elevation of a plate finished in accordance with the present invention;

Figure 2 is an enlarged section taken along the line 2—2 of Figure 1; and

Figure 3 is a view, on a still greater scale, of a portion of the section shown in Figure 2.

The invention will be described as applied to a metal body as the body whose surface is to be finished. However, the body may be of practically any material so long as the surface thereof is such or may be made such that a metal coating will adhere thereto.

Referring to the drawing, a plate 10 of any suitable metal is illustrated as the body whose surface is to be finished. This plate has a raised border 11 and raised portion 12 on its face surface. In finishing the face surface of this plate, this surface is in a roughened condition either as formed or rendered thus by sand-blasting or other processes to provide the irregular surface 14. On the irregular surface 14 finely divided molten metal is sprayed to form a coating 15. The coating 15 deposits on the plate in a porous condition, the particles 16 which form the coating 15 adhering to the roughened surface 14 and to each other substantially as shown in Figure 3. The pores or interstices between the particles 16 are designated 17 and these pores are impregnated with a surfacing material such as lacquer or other like material. Preferably the surfacing material is applied in a number of coats to the surface and then baked into the metal coating 15. However, the baking of the surfacing material into the coating 15 may be omitted, if desired, as the surfacing material penetrates into the pores without this operation. The baking step aids in the penetrating and speeds up the preparation of the finish.

The particles 16 adhere to each other to form a strong, rigid coating that will take the wear to which the plate is subjected and protect the surfacing material. By the proper selection of the metal used in the spraying and of the surfacing material, a great variety of colors of finish may be obtained.

A black finish for plate 10 is illustrated. To produce a surface that will show only black, Swedish iron may be used for the coating 15. This coating of Swedish iron is deposited on the plate 10 and is then blackened by converting the iron to an iron phosphate, such as by the process known as "Parkerizing", the basic principles of which are disclosed in the patents to Coslett, No. 870,937, dated November 12, 1907, and Richards, No. 1,069,903 dated August 12, 1913, which is very

resistant to wear and black in color. Lacquer of a black color is then baked into the deposited iron phosphate coating 15. Thus, both the iron phosphate, which resists erosion, and the lacquer are black so that any wear to which the plate may be subjected will not change its appearance.

In a like manner metals or alloys corresponding or harmonizing in color with that of the surfacing material may be used for the coating 15.

If a stippled surface is desired, it may be produced by using a metal for the coating 15 which differs in color from that of the surfacing material applied and then grinding off the high spots of coating 15.

The surfaces produced by the above methods have a high resistance to both wear and corrosion and may be easily cleaned by simple methods.

If the plate 10 is metallic in character, the tops of the raised portions 11 and 12, for example, may be ground off to remove the deposited coating 15 leaving highly polished surfaces of the plate metal.

As many changes could be made in the above construction and many apparently widely differ-

ent embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In combination, a metallic body having a roughened surface, a coating of iron in a porous condition adhered to said surface, said iron coating having at least a portion thereof converted to iron phosphate, and a black lacquer adhered to said coating and at least partially filling the pores thereof.

2. The process of producing a finish on a surface of a body which consists in roughening said surface, projecting finely divided particles of molten Swedish iron onto said surface, converting at least a portion of said deposited metal into iron phosphate, and applying a coating of black lacquer onto the surface of said metal and into the interstices between said particles.

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