This invention relates to a process of electro-plating of non-metallic surfaces or substances, and has for its object the creation of a metallic coating that will adhere closely to the surface or material treated.

With the above and other objects in view, as will be apparent, this invention consists of the steps, manipulations and treatments hereinafter more fully described, claimed and illustrated in the accompanying drawing, wherein:

Fig. 1 is a plan view of an article manufactured in accordance with the process or method hereof;

Fig. 2 is a vertical section taken along line 4—4 of Fig. 1, and illustrates the first step of the process forming the subject matter hereof;

Fig. 3 is a similar view showing the second step of the present process; and

Fig. 4 is likewise a similar view disclosing a completed article manufactured in accordance with the present process or method.

As it is the object of the present invention to provide a method or process for the electro-plating of non-metallic material, it is to be understood that it includes the treatment of any non-metallic or non-conductive material. The present invention is described as applying plating on a fibrous material such as fibre, paper or other similar materials, and while it is desirable to use a non-absorbent base material, the present process or method can be applied to absorbent bases, if desired, by initially treating the same with asphaltum wax, or other suitable materials which will fill the pores and render the base material substantially water or liquid proof and practically non-absorbent; however, in describing the present process to be assumed, that the base material in addition to being non-metallic or non-conductive is also waterproof and non-absorbent by some treatment prior to its manipulation by the present process or method.

The first step of the present process or method is to shape or form the base material so that it includes the required desired design, form and surface ornamentation. A piece 10 of the base material so formed and shaped is illustrated in Fig. 2 of the drawing.

The edges of this base 10 are then bound by a metallic ring or binder 11 which encloses both sides of the edges of said section or piece 10 and completely surrounds the same, the edges of said ring or binder 11 being crimped inwardly at 12 to form a permanent connection with the base material 10. Interposed between one of the edges of the ring or binder 11, is a strip of foil or other suitable conducting material 13. This foil strip 13 is permanently engaged between the binder 11 and the base 10 at one end and is free at its opposite end for the purpose of making suitable electrical connections during the plating process. The free end of the foil strip 13 may be removed after the plating operation is completed and it has served its purpose.

After the binder 11 and foil 13 are permanently secured to the base 10, the surface thereof is sprayed with a coating 14 of lacquer containing a metallic powder. It is, of course, to be understood that while lacquer is specified herein, any other suitable material may be used as a medium to carry the metallic powder and thereby cover the surface of the base 10 with said metallic powder. If it is desired to leave one surface of the base uncoated, that portion is not sprayed with the metallic powder as aforesaid, and hence will not receive the electroplating.

The article treated and coated with the metallic powder 14 as above described is then electroplated in the usual manner, and it will be found that the plating metal 15 will be deposited on all surfaces of the base 10, which have been previously treated with the mixture of lacquer and metallic powder 14.

The thickness of the deposit of plating metal will be determined by the time the base 10 is exposed in the plating tanks. As the base material 10 is or has been rendered waterproof and liquid-proof, it will not be affected by the solutions in the tank during the plating operation.

It is, of course, apparent that the present process hereinbefore described will be applied to any non-conductive or metallic material or surface, and that the plating metal 100...
will not only follow the details of the surfaces of the base 10, but will only be deposited on those portions thereof that have been treated or coated with the mixture of lacquer and metallic powder.

What is claimed is:

1. The method of electroplating a non-conductive substance consisting in surrounding said substance with and permanently attaching thereto a metallic binder, securing a conductor between said binder and said substance with a free end projecting beyond the confines of said binder, spraying the surface to be plated with a mixture of lacquer and metallic powder, and then electroplating the substance so treated.

2. The process of electroplating non-conductive substances consisting of completely surrounding said substance with, and permanently securing thereto, a metallic binder, inserting a section of foil between said binder and said substance so that the foil has a free end projecting from said binder, spraying the surface to be plated with a mixture of metal and lacquer, and then electroplating the substance so treated.

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