

UNITED STATES PATENT OFFICE.

LEONHARD KURZ, OF FUERTH, GERMANY.

COMPOSITION FOR MAKING GOLD-LEAF.

982,370.

Specification of Letters Patent. Patented Jan. 24, 1911.

No Drawing.

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To all whom it may concern:

Be it known that I, LEONHARD KURZ, a subject of the Emperor of Germany, residing at Fuerth, Bavaria, Germany, have invented certain new and useful Improvements in Compositions for Making Gold-Leaf and the Like, more particularly Leaf-Gold, of which the following is a specification.

10 This invention relates to the manufacture of leaf-metal and the like, more particularly of leaf-gold, by means of a process in which no hammering operation takes place.

It has hitherto been proposed to dissolve 15 bronze (an alloy of a precious or base metal in powdered condition) in a mixture of amyl acetate and nitrocellulose and to pour this solution over a surface of water, the nitrocellulose forming, after the evaporation 20 of the amyl acetate, a tissue which carries the bronze and has the appearance of leaf-metal. The leaf-metal obtained in this manner, however, has the following disadvantages: It does not retain the bronze sufficiently firmly, it is not capable of being 25 stamped, and it does not permit of obtaining a uniform distribution of the bronze upon the nitrocellulose.

30 The main object of the present invention is to avoid these drawbacks.

The invention consists in adding to the well known mixture of bronze, amyl acetate and nitrocellulose, benzin, methylic alcohol and castor-oil. The benzin effects a rapid 35 evaporation of the solvent (amyl acetate) the methyl alcohol accelerates the drying of the metallic film formed on the surface of water, and the castor-oil renders the leaf-metal malleable. Moreover in the leaf-metal obtained according to the present invention the bronze is uniformly distributed 40 over the whole surface and is firmly held by the tissue formed by the nitrocellulose.

One mode of carrying out the invention is 45 given by way of example. 120 grams of bronze (consisting of alloys of precious or base metals in powdered condition) is intimately mixed with a mixture having the composition hereinafter described until a 50 paste or fluid of thick consistency, and of the required color is obtained. The colorless mixture consists of: 500 cubic centimeters of amyl acetate, 450 cubic centimeters of benzin, 50 cubic centimeters of meth-

ylic alcohol. In this liquid there are dissolved: 3.7 grams of castor-oil, and 25.25 55 grams of nitrocellulose. The mixture obtained by mixing this solution with the bronze, or with a color which may be used instead, is poured over a surface of water 60 in the form of a jet which is more or less thin, thereby forming a film which floats on the water surface and which, after a short time, is solidified to a leaf. The latter is then removed by suitable means. 65 The leaf obtained in this manner is compact, it possesses the color of the bronze or the like which has been added to the mixture, and, after it has been artificially dried, rendered smooth or polished, and 70 pressed, can serve as a perfect substitute for beaten leaf-gold or leaf-metal. The solidification of the film on the water surface is due to the evaporation of the solvent and is completed within 20 minutes when the atmospheric temperature is about 15° C. 75 Instead of the water surface, a mercury, glass, or any other suitable plane surface may be used for the purpose of receiving the film formed by the mixture. The leaf obtained 80 in the manner described, after it has been divided into smaller parts or even without any preliminary division, may be dried on sheet-iron plates in drying ovens at a temperature of about 50°-60° C. 85

The following main advantages are attained by the present invention: In contradistinction to the difficult and costly hammering operation, the present process 90 which excludes any possibility of the metal becoming oxidized while the leaves are manufactured, does not require much time and many means of operation, and may be carried out by workmen less skilled than those required for the hammering process. 95 According to the surface of water employed any size of leaves may be obtained, while they may be made more or less thick. The leaves are preferably uniform and are very resistant against breakage, pulling, shearing, cracking and the like. Moreover, any 100 desired color may be imparted to the leaves.

I claim—

1. A composition of matter for forming 105 leaf-metal and the like, consisting of a suitable metallic powder, nitrocellulose, amyl acetate, benzin, methyl alcohol, and castor oil, substantially as described.

2. A composition of matter for forming leaf-metal, consisting of the following ingredients and compounded substantially in the following proportions, to wit:—120
5 grams bronze powder, 500 cubic centimeters amyl acetate, 450 cubic centimeters benzin, 50 cubic centimeters methyl alcohol, 3.7 grams castor oil, and 26.25 grams nitrocellu-

lose, substantially as described and for the purposes set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

LEONHARD KURZ.

Witnesses:

ALEXANDER WIELE,

MAX SCHNEIDER.