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E. OESER.

PROCESS OF PROVIDING BRONZE POWDER AND DUST COLORS WITH A COAT OF VARNISH.

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976,594.

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Fig. 1.

Fig. 2.

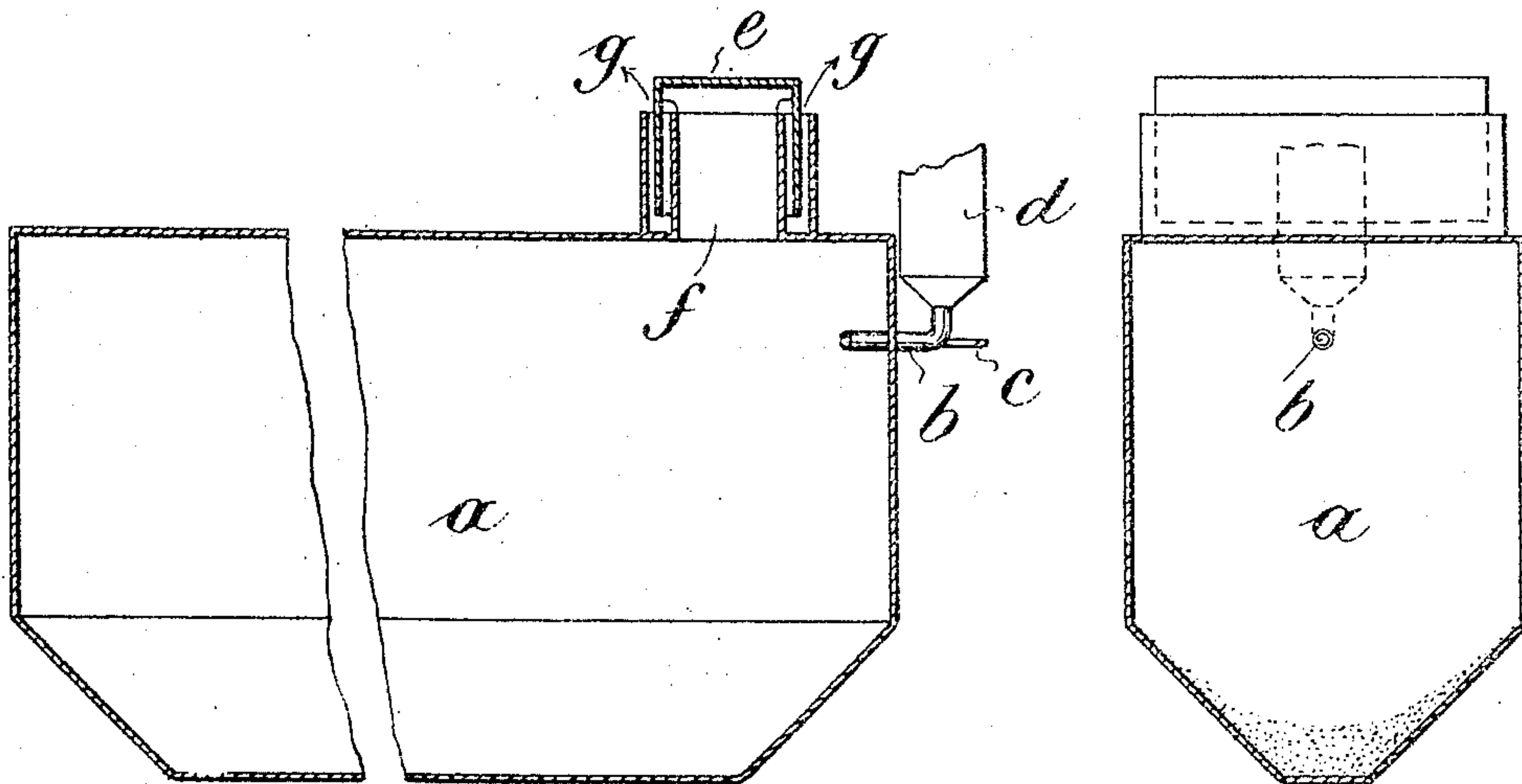
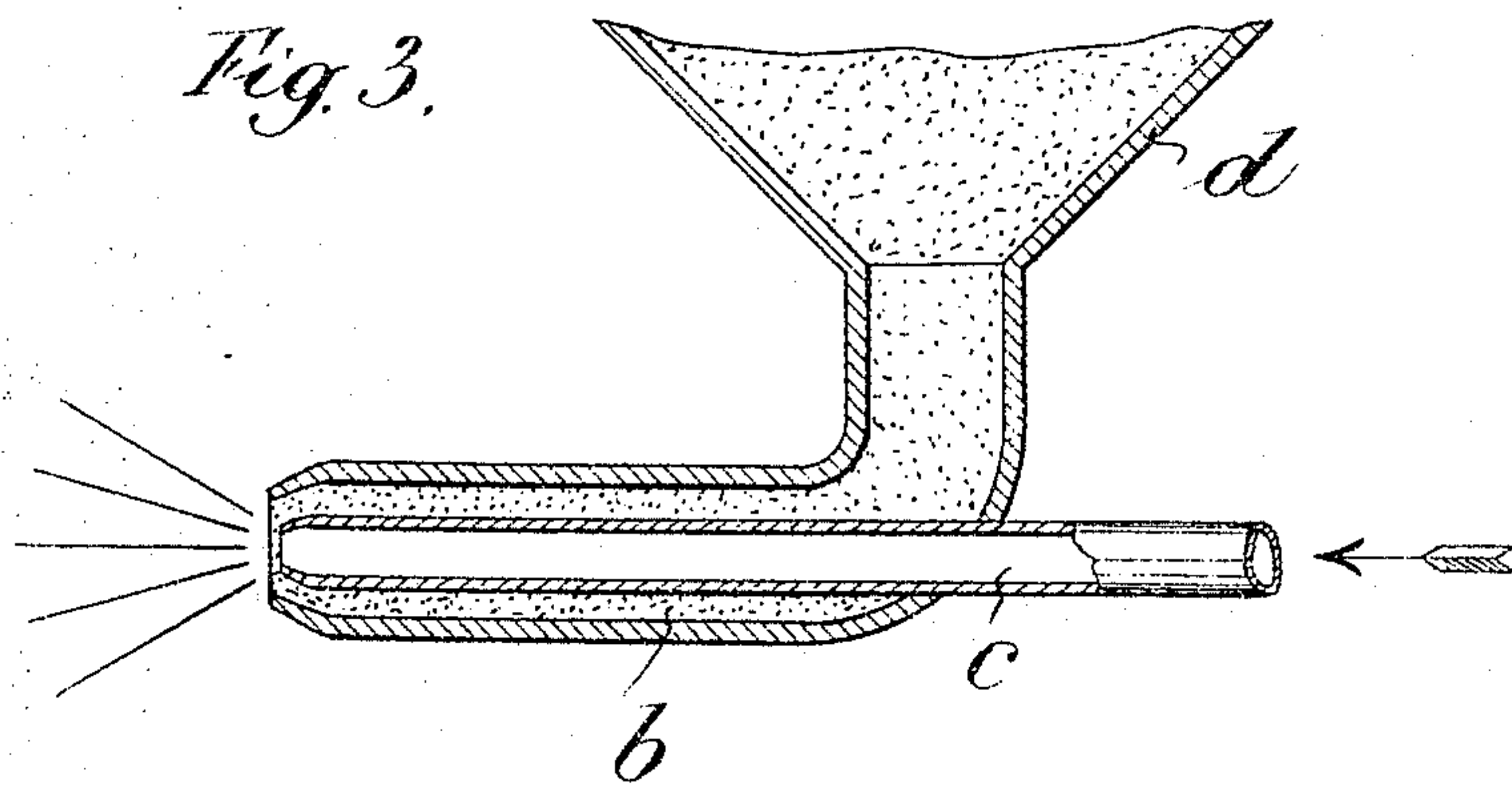


Fig. 3.



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# UNITED STATES PATENT OFFICE.

ERNST OESER, OF BERLIN, GERMANY.

PROCESS OF PROVIDING BRONZE-POWDER AND DUST COLORS WITH A COAT OF VARNISH.

976,594.

Specification of Letters Patent.

Patented Nov. 22, 1910.

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*To all whom it may concern:*

Be it known that I, ERNST OESER, manufacturer, a subject of the German Emperor, and resident of No. 10 Pallasstrasse, of Berlin, Germany, have invented certain new and useful Improvements in Processes of Providing Bronze-Powder and Dust Colors with a Coat of Varnish, of which the following is a specification.

The so-called bronze-powder—a powder made of any kind of metal—has, as is well known, the drawback that it is too liable to oxidize in consequence of the spraying before, as well as after, its application and loses, as a result, its original fire. For this reason the metal-powder is very often not put on in the powder-form, but mixed directly, with the agglutinant. But in this way a great part of the metallic luster gets lost.

The object of the present invention is to provide the metal powder, as well as other dust colors, which lose some of their luster or appearance under the action of the atmospheric air, with a transparent layer of varnish, which does not impair the metallic luster of the metal or of the color, but is able to resist the action of the atmospheric air and acid vapors, which layer is put on before it is applied or put on the market.

This process consists in mixing the metal powder, or the respective dust color, with a varnish and stirring it, so that the mixture forms a thinly liquid pulp, which is then converted into spray in a closed space by means of a spraying-apparatus worked by air under pressure. The agglutinant of the varnish must be of a kind that it volatilizes or evaporates during the passage of the particles of metal or color from the spraying-nozzle to the place where they are deposited, that is to say the particles of metal or color must be perfectly dry and sink down to the bottom of the respective space without baking together. The vapors or gases formed by the volatilization of the dissolvent can be let off by suitable means.

The drawing shows a sample form of construction of the apparatus required for carrying out the process, in Figures 1 and 2, in a longitudinal and cross-section. Fig. 3 is

an enlarged longitudinal sectional view of the spray nozzle.

*a* is the chamber forming the closed space, *b* the spraying-nozzle, *c* the air-conduit opening into the same, the receptacle for the product to be sprayed, which receptacle stands in communication with the nozzle, and *e* a hood covering, like a bell, the opening *f*, through which the gas is let off. The chamber is provided with a funnel-shaped bottom for the purpose of facilitating the removal of the metal powder or of the dust-color after the treatment. The vapors or gases formed by the volatilization of the dissolvent draw off in the direction of the arrows *g*.

Practical experiments have shown that the varnish sold under the name of Zapon varnish is best-suited for carrying out the process. But there may also be used other rapidly drying varnishes which give off to the air, during the short space of time elapsing between the exit from the nozzle and the falling down of the solid particles of metal or color, their volatile dissolvents.

The metal or color-powder treated in this way is quite as loose as before and each particle of the same is covered with a thin varnish-membrane, by which it is protected against the outside influences which cause the oxidation. The powder can then be used in the manner already known.

What I claim as my invention and desire to secure by Letters Patent of the United States is:

1. The process of coating bronze powder and dust colors with a coat of varnish, which consists in mixing the pulverized material with a rapidly drying varnish, and then spraying the mixture under pressure in a closed chamber and permitting it to drop to the bottom of the chamber as a dry powder.

2. The process for coating bronze powder or dust colors with varnish, consisting in mixing the pulverized material with a rapidly drying varnish and reducing the mixture to the powdered form before the mass hardens.

3. The process of coating bronze powder and dust colors with a coat of varnish, which

consists in mixing the pulverized material with a rapidly drying varnish in a sprayed state, stirring the mixture until it forms a thin pulp and then spraying it under pressure in a closed chamber, and permitting it to drop to the bottom of the chamber as a dry powder.

4. A dry powdered bronze, the particles of

which are coated with a layer of transparent varnish.

The foregoing specification signed at Berlin this 10th day of September, 1909.

ERNST OESER.

In presence of—

WOLDEMAR HAUPT,  
HENRY HASPER.