(No Model.)

A. P. OTTO.

METHOD OF AND APPARATUS FOR ENAMELING.

No. 605,903. Patented June 21, 1898.

Fig. 1.

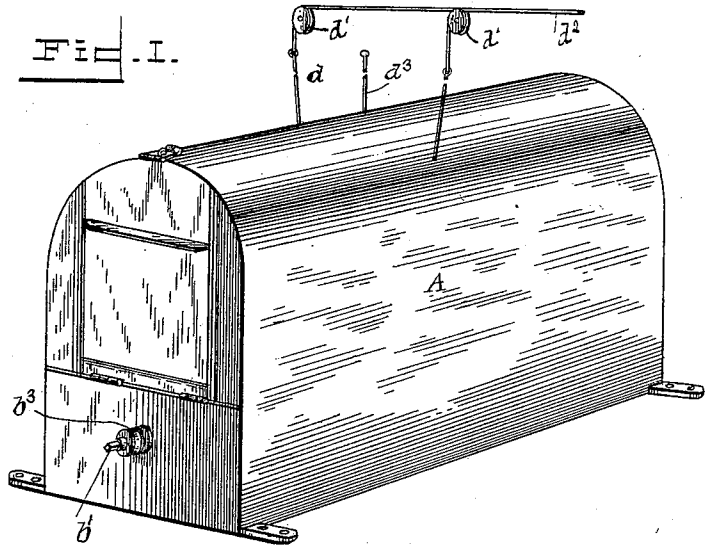


Fig. 2.

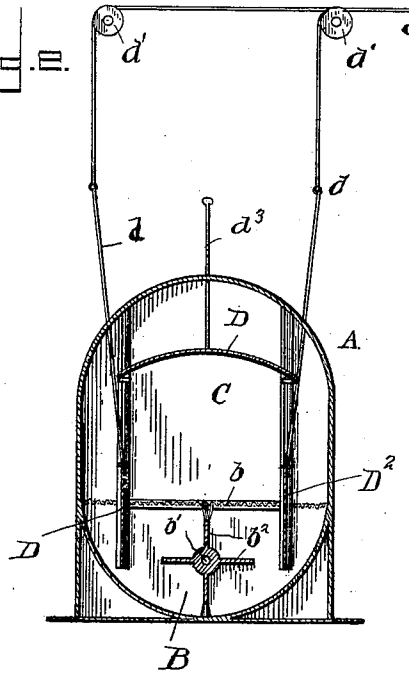
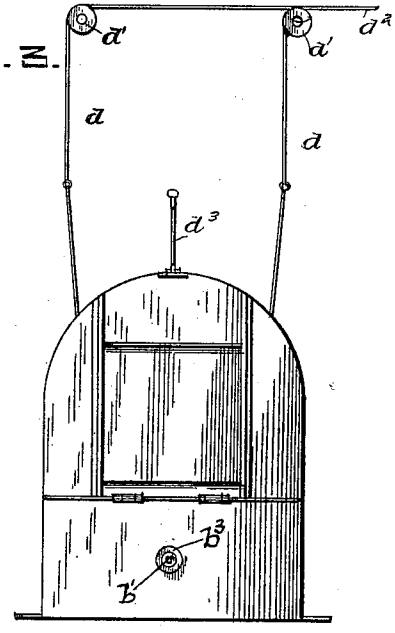


Fig. 3.



Witnesses:
Fenton S. Belt,
M. A. Kelly.

Inventor:
Albin Paul Otto
By Soule & Co.
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALBIN PAUL OTTO, OF TRENTON, NEW JERSEY.

METHOD OF AND APPARATUS FOR ENAMELING.

SPECIFICATION forming part of Letters Patent No. 605,903, dated June 21, 1898.

Application filed October 16, 1897. Serial No. 655,478. (No model.)

To all whom it may concern:

Be it known that I, ALBIN PAUL OTTO, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Methods of and Apparatus for Enameling; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to enameling, and it relates particularly to that branch of this art which contemplates the coating of articles with enamel the ingredients of which are applied to the articles in a finely-divided condition.

The object of the invention is to produce a mode of procedure and means whereby a coating of enamel, uniform in thickness over the entire surface coated, may be placed upon articles in a rapid manner, producing a superior quality of enameling with saving of time over the usually-practiced methods of enameling.

The invention consists, essentially, in the art of enameling, which consists in the method of applying finely-divided enamel by heating the article to be enameled, confining the article, projecting throughout the space surrounding the same the ingredients of enamel in a finely-divided state, and then in more closely confining the article and allowing the enamel ingredients to settle on the article.

The invention consists, further, in various novel details of construction, whereby the objects of the invention are attained and the effectiveness of the device insured.

The apparatus for carrying out my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the apparatus. Fig. 2 is a transverse sectional view, and Fig. 3 is a front elevation.

In the drawings, A represents the shell or outside covering of the apparatus, which may be of any suitable material not injuriously affected by heat, the interior of which forms an inclosing chamber for receiving the article to be enameled. The interior of the shell is divided by a horizontal perforated partition or floor b, forming the bottom of a compartment C, and which supports the article to be treated.

Arranged in the compartment C is a horizontal shutter D, which is above the article to be treated, and at each side of the same are shutters D^2. The shutters D^2 are connected by suitable ropes or chains d, passing over a suitable pulley d' and joined to a single rope or chain d^2, by which means the side shutters may be raised or lowered. The horizontal shutter D is provided with a rod d^3, by means of which the same may be raised or lowered at will.

In the embodiment of my invention now illustrated the receptacle for the ingredients of the enamel is between the partition b and the bottom of the shell, which bottom is preferably curved, as shown.

Mounted in the receptacle B is a shaft b', upon which are arranged a series of wings b^2 of sheet metal or other suitable material. The outer end of the shaft b' is provided with a band-wheel b^3, through which motion is communicated to the shaft and the wings carried by it.

In the operation of my invention the quantity of the ingredients of the enamel to be used is first placed in the receptacle B in the lower part of the apparatus. The article to be treated is heated, preferably, to a cherry red and placed in the apartment C, the shutter D being raised and the shutters D^2 being lowered in order to give the greatest area to the apartment C. After the article is introduced the apartment C is closed and the shaft B is revolved rapidly, resulting in projecting into the apartment C the ingredients of the enamel. The result of this manner of introducing the enamel is to distribute the same uniformly throughout the apartment C, and thus an even coating will be placed upon the article to be enameled. When a sufficient quantity of enamel has been deposited upon the article treated, the shutter D is lowered and the shutters D^2 raised, thus materially decreasing the area of the apartment and resulting in shutting off all enamel except that inclosed within the shutters.

While I have particularly described the shutter provided with wings as the means for

projecting the enamel upon the article to be coated, I do not of course limit myself in this respect, as any other suitable mechanical means for the purpose may be employed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In the art of enameling the method of applying finely-divided enamel by heating the article to be enameled, confining the article, projecting throughout the space surrounding the same the ingredients of enamel in a finely-divided condition, and then in more closely confining the article, thereby limiting the quantity of enamel applied, and allowing the enamel ingredients to settle on the article, substantially as described.

2. An apparatus for enameling comprising a closed apartment, a receptacle adjacent to the apartment for receiving the ingredients of the enamel, means for projecting the ingredients throughout the apartment, and movable shutters for decreasing the size of the apartment, substantially as described.

3. An apparatus for enameling comprising a closed apartment, movable shutters for decreasing the size of the apartment, a receptacle arranged below the apartment for receiving the ingredients of the enamel, a perforated partition separating the apartment and the receptacle, and revoluble wings arranged in the receptacle whereby the ingredients of the enamel are projected through the perforations in the partition and throughout the apartment, substantially as described.

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

ALBIN PAUL OTTO.

Witnesses:
N. A. KELLY,
S. E. HOUKINS.