

H. E. GENET.
METHOD OF CLEANING METALS.
APPLICATION FILED SEPT. 16, 1910.

980,627.

Patented Jan. 3, 1911.

Fig. 1.

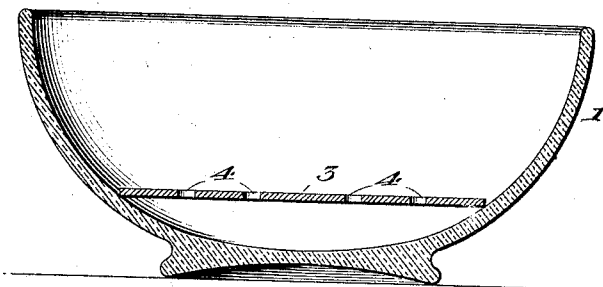


Fig. 2.

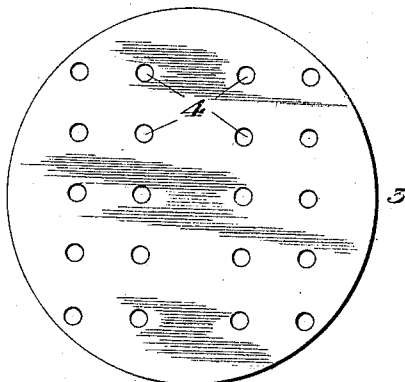


Fig. 3.

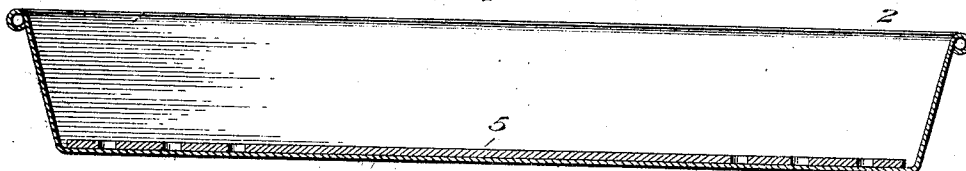
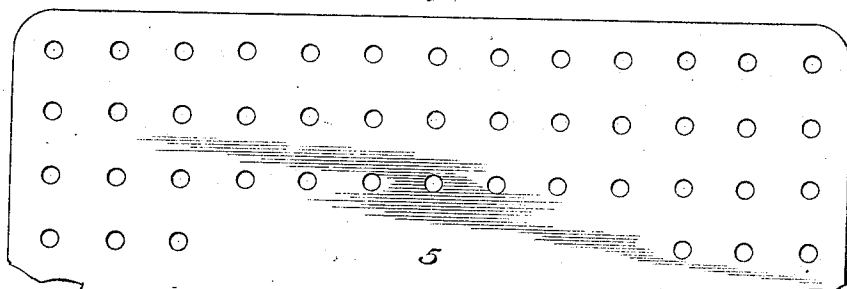


Fig. 4.



Witnesses

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METHOD OF CLEANING METALS.

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Specification of Letters Patent.

Patented Jan. 3, 1911.

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To all whom it may concern:

Be it known that I, HENRY E. GENET, a citizen of the United States, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Methods of Cleaning Metals, of which the following is a specification.

This invention relates to a method of and apparatus for cleaning gold, silver, and metal articles.

The present invention has for its object the provision of a new method and apparatus for the electrolytic cleaning of metal articles of the tarnish of oxid or the like which will permit the utilization of any suitable receptacle to contain the solution, articles to be cleaned, and the novel anode, the latter being of pure aluminum and the electrolyte being sodium hydroxid, NaOH. I have discovered that pure aluminum is the most efficient anode because the electrolytic action does not cause any appreciable coating or film to be deposited thereon and there is no local action on the face of said anode. Sodium hydroxid, NaOH, is most efficient to form the electrolyte on account of its action in connection with the aluminum anode and because of its strength being such that a relatively small quantity is required.

In the accompanying drawings: Figure 1 is a sectional view showing a finger bowl or the like with the anode in position therein; Fig. 2, a view of the disk like aluminum anode used in Fig. 1; Fig. 3, a sectional view of a pan and an elongated aluminum anode; and Fig. 4, a face view of the anode of Fig. 3. Figs. 1 and 2 represent apparatus adapted for the cleaning of small articles such as rings, bracelets, and other articles of jewelry. Figs. 3 and 4 disclose apparatus for cleaning large metal articles, silverware, etc.

In Fig. 1 the bowl 1 may be of some non-metallic substance and in Fig. 3 the pan or tray 2 is preferably of enameled metal ware as in my apparatus and method the re-

ceptacle is a non-conductor and has nothing to do with the anode. For convenient handling the aluminum anode for use with small articles is made in the shape of a disk having perforations for the free circulation of the electrolyte and to afford as great an area as possible. For use in pans or trays, the aluminum plate 5, suitably perforated, is employed. It will be understood that the size and shape of the aluminum anode are immaterial.

The electrolyte, sodium hydroxid, NaOH, in solution, preferably in the proportion of one half pound of sodium hydroxid to one gallon of water, the latter being preferably boiling, is introduced into the vessel, 1 or 2, the anode, 3 or 5 introduced therein, and the articles to be cleaned are then placed in the receptacle, immersed in the electrolyte, and in direct contact with the aluminum anode. Such of the articles as do not touch the anode are in indirect connection therewith through the ones in direct contact. Preferably the solution is very hot or maintained hot or boiling. The action is as follows: Nascent hydrogen is set free and coming in contact with the oxid or tarnish on the articles to be cleaned, reduces said oxid or tarnish very rapidly, leaving the immersed articles bright without removing any metal or in any manner affecting the metal.

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

The method of removing tarnish from metals, consisting in immersing the metal to be brightened in a solution of sodium hydroxid in which is immersed an anode of aluminum, and in bringing the metal to be brightened into electrical contact with the aluminum anode.

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

HENRY E. GENET.

Witnesses:

M. L. NEWCOMB,
GEO. B. PITTS.