

UNITED STATES PATENT OFFICE.

HOWARD I. MANLEY, OF WEBB CITY, MISSOURI.

PROCESS OF CLEANING ARTICLES OF METAL AND GLASS.

951,824.

Specification of Letters Patent. Patented Mar. 15, 1910. \

No Drawing.

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To all whom it may concern:

Be it known that I, HOWARD I. MANLEY, a citizen of the United States, residing at Webb City, in the county of Jasper and
5 State of Missouri, have invented certain new and useful Improvements in Processes of Cleaning Articles of Metal and Glass, of which the following is a specification.

10 The object of my invention is to provide a simple and inexpensive process for cleaning gold, solid and plated silver, nickel-plated and brass articles, as well as cut-glass, glass, tile, etc.

15 In the practical embodiment of the invention no acid, ammonia, or poisonous materials are employed, and which might be injurious to the hands, or otherwise. Furthermore, with my process the operation of cleaning articles such as above described is
20 greatly facilitated, having in view the most common methods now in use, and the cleaning may be performed void of many disagreeable features incidental to the customary methods heretofore resorted to.

25 Specifically describing the nature and advantages of my invention, in cleaning articles of the kind before referred to, I preferably employ a suitable receptacle of tin, or metal coated with tin, adapted to contain a
30 solution or bath, in which the articles to be cleaned are plunged. This solution consists preferably of sodium bi-carbonate (NaHCO_3), salt, and water. I have found that it is absolutely necessary to heat the
35 water to not less than 212° Fahrenheit to enable me to secure effective results. I employ 97% of sodium bi-carbonate and 3% of salt, the same being mixed with the water in the proportion of about one ounce of the soda
40 and salt to a gallon of water.

In the actual practice of my invention the water is first heated and a container of tin, or one having therein a submerged surface

of tin, is employed to hold the water. The sodium bi-carbonate and salt having been
45 dissolved in the water, the articles to be cleaned are introduced into the bath and caused to come into contact with the tin surface above mentioned. The cleaning of the articles is effected by a sort of electrolytic
50 action which takes place on immersion thereof in the bath, the foreign matter which ordinarily tarnishes metal articles being precipitated to the tin surface, from which, however, it may be readily removed by al-
55 most any common scouring preparation. In the carrying out of my process a peculiar chemical action ensues between the elements of the special solution or bath in which the articles to be cleaned are immersed, and the
60 tin surface of the receptacle, on contact of the articles with the tin. I have discovered that this chemical action is such as to effectively accomplish the desired result of cleaning the metal and glass articles in the man-
65 ner before described.

Having thus described the invention, what is claimed as new, is:

The hereindescribed process of cleaning gold, silver, plated and similar articles, con-
70 sisting of immersing said articles in a solution of a compound including 97% NaHCO_3 and 3% NaCl or salt, said mixture being in a receptacle having a surface of tin submerged therein, bringing the articles into
75 contact with the receptacle while immersed, and maintaining the mixture or solution at a temperature of not less than 212° F., subjected to an electric current.

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

HOWARD I. MANLEY.

Witnesses:

I. E. MANLEY,
E. A. MARTIN.