

UNITED STATES PATENT OFFICE.

JOSEPH WHARTON, OF PHILADELPHIA, PENNSYLVANIA.

ELECTROPLATING WITH NICKEL.

SPECIFICATION forming part of Letters Patent No. 223,265, dated January 6, 1880.

Application filed July 9, 1879.

To all whom it may concern:

Be it known that I, JOSEPH WHARTON, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Electroplating with Nickel, of which invention the following is a specification.

My invention consists in the use, for electroplating with nickel, of anodes—i. e., electrolytes—composed of nickel in a malleable state, whether cast in or wrought, rolled, or hammered into the required form, in combination with the nickel-salt bath commonly employed in electroplating with nickel.

Hitherto electroplating with nickel has been practiced by using as anodes, first, plates of the metal cast in the ordinary manner and resembling cast-iron in their granular and friable structure or mechanical constitution; or, second, grain-nickel confined in netting; or, third, grains of nickel embedded in carbon. Of these processes the first-named has this inconvenience, that the cast plates, being crystalline or granular, become corroded and porous after a certain period of use, so that a large and variable portion of each plate is unavailable for further use, by reason of its crumbling apart, and must be withdrawn, having then no further value except for sale as old metal or for recasting.

The second-named process also leaves a considerable portion of the metal unconsumed, and the sacks of netting are less convenient in shape than the plates, while the complete conduction and consequent activity of the electric current and the efficacy of the nickel

grains for plating diminish constantly as they become corroded.

The third-named process is costly, besides being liable to the objections applicable to the second process.

The advantages of my invention are, first, that a thinner and lighter plate may be used, thus requiring a smaller outlay of capital for starting an establishment and permitting greater compactness and convenience in operation; second, that the deposit of nickel upon the objects to be plated is made with greater celerity, regularity, and certainty from my wrought or malleable cast plates than from cast plates as hitherto made; third, that the malleable anode may be consumed completely in the process of plating, while the cast anodes, made as has hitherto been customary, must, necessarily, remain to great extent unconsumed, thus effecting an important economy; fourth, that these advantages exist by reason of the fitter physical constitution of the metal in the malleable condition than is the case with anodes cast in the ordinary methods, and therefore necessarily of a porous or granular structure.

I claim—

As a new manufacture, an anode composed of malleable nickel cast in, wrought, rolled, or hammered into the required form, substantially as set forth.

JOSEPH WHARTON.

Witnesses:

THOS. A. BURTT,
J. E. SHAW.