

## UNITED STATES PATENT OFFICE

JOSHUA A. WHITMAN AND NATHANIEL M. NEAL, OF AUBURN, MAINE, AS-  
SIGNORS TO THE AUBURN FOUNDRY AND MANUFACTURING COMPANY,  
OF SAME PLACE.

## IMPROVEMENT IN NICKEL-PLATED ARTICLES.

Specification forming part of Letters Patent No. 125,868, dated April 16, 1872.

*To all whom it may concern:*

Be it known that we, JOSHUA A. WHITMAN and NATHANIEL M. NEAL, both of Auburn, in the county of Androscoggin and State of Maine, have made a new and useful Improvement in Nickel-Plated Articles, and we hereby declare the following to be a full and exact description of the same.

The property of nickel to furnish a bright, hard, smooth, and non-corrodible surface has been long known; but until recently there has been no practical means of depositing it in quantity upon the surface of articles made of iron and steel so as to adhere firmly. This can now be done with proper care and skill by the electroplating process. By the use of this art we have greatly improved the quality of certain articles, as hereinafter described.

Our invention consists in making an improved nickel-plated curling-iron for dressing human hair. The invention is also applicable to crimping-irons, crimping-pins, crimping-tongs, and similar implements made of iron and used for dressing hair. These articles as heretofore made were defective, for the reason that the surface easily corrodes, does not retain the heat a sufficient time, and have not a smooth hard surface.

It is a well-known principle in natural philosophy that a bright, polished, metallic surface radiates heat very slowly, while a dark-colored or rough surface radiates heat very

readily. We find that nickel-plating gives the best surface to the articles above-named, being far superior to tin, brass, or even silver, for these are easily tarnished by heat, and by the vapors that are more or less generated when hair is kept in contact with a heated metallic surface. The method of nickel-plating being now well known, and practiced by those skilled in the art, need not be particularly described.

The form of the articles need not be changed, and our invention is applicable to the ordinary curling-and-crimping irons, and also to those in which the heating is done by the means of a gas-flame, or by hot liquid inside.

The special advantages secured by our invention are, that the heat is retained about one-third longer, thus avoiding the necessity of reheating. The articles do not rust, and, from having a smooth hard surface, do their work much more efficiently. and are neat and clean to handle.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

The improved nickel-plated articles herein described, made substantially as herein set forth.

JOSHUA A. WHITMAN.  
NATHANIEL M. NEAL.

Witnesses:

GEO. W. WILLIAMS,  
JOHN T. RANDALL.