

# UNITED STATES PATENT OFFICE.

JOHN M. SPRING, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO P. & F. CORBIN, OF SAME PLACE.

## IMPROVEMENT IN BRONZING ARTICLES OF IRON.

Specification forming part of Letters Patent No. 197,572, dated November 27, 1877; application filed November 11, 1876.

*To all whom it may concern:*

Be it known that I, JOHN M. SPRING, of New Britain, in the county of Hartford, in the State of Connecticut, have invented an Improvement in Bronzing Articles of Iron, of which the following is a specification:

Articles of iron have been coated by oil and subjected to the action of heat to produce the color desired in imitation of bronze. This is difficult to accomplish and to produce uniformity of color, because the color varies with the temperature.

Brass has been rubbed upon iron to give color to the same, and iron has had its surface coated by a deposit of copper and other metals from a solution, and a varnish has in some instances been applied to the same.

My invention relates to the method of producing an artificial bronze surface upon iron.

The articles to be bronzed are cleaned in the usual manner; they are then subjected to friction with brass, by placing the articles in a tumbling barrel or rumbler with pieces of brass, preferably star-shaped, so that the surface of the iron is covered with a thin film of brass by abrasion; or the surface may be similarly prepared by rubbing the same with a

brush of fine brass wire. The surface of the iron will be colored more or less, according to the time that the iron is exposed to the action of the brass. The surface of the iron is then covered with a suitable varnish, such as copal, and subjected to a sufficient degree of heat to render the same hard and firm.

The iron prepared in this manner has a luster and handsome appearance, that cannot be produced by the varnishing processes heretofore employed.

I do not claim coating iron by rubbing it in contact with another metal.

I claim as my invention—

The method herein specified of producing an artificial bronze surface upon iron, consisting in smoothing and coloring the surface by brass rubbed upon the iron, and then retaining the same and finishing the surface by a coating of varnish.

Signed by me this 4th day of November, A. D. 1876.

J. M. SPRING.

Witnesses:

CHARLES PECK,  
SAML. BASSETT.