

# UNITED STATES PATENT OFFICE.

JOHN WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
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## IMPROVEMENT IN PROCESSES IN CASTING IN METALLIC MOLDS.

Specification forming part of Letters Patent No. **138,775**, dated May 13, 1873; application filed  
January 14, 1873.

*To all whom it may concern:*

Be it known that I, JOHN WILLIAMS, of Philadelphia, in the State of Pennsylvania, have invented or discovered a new and Improved Mode of Casting Metals in Metallic Molds; and I do hereby declare the following to be a full and correct description of the same.

The nature of my invention or discovery consists of covering the surface of metallic or other molds, cores, or bars against which the hot metal is to flow, and be formed to shape, or in, upon, or around which it is to be, with a thin coating of red lead, (minium.) By the use of this coating of red lead I am enabled to cast iron upon wrought shafts, and in iron molds and around wrought-iron anchors, &c., without the usual blowing or escape of gas and vapor, which usually leaves the casting defective or defaced by wavy surfaces, air-holes, and other blemishes.

To enable others to use this coating I will

proceed to describe its preparation and application.

I take the ordinary red lead of commerce, (minium,) and mix it with any animal or vegetable oil, or with water, to the consistency of cream, and apply the mixture to the surface of the mold or bars into which the hot metal is to be cast.

What I claim, and desire to secure by Letters Patent, is—

A coating formed of red lead, (minium,) and applied to the surfaces of metallic or other molds or metals around, in, or against which other metals are to be cast, for the purpose herein specified.

The above specification of my said invention or discovery signed and witnessed at Philadelphia this 7th day of March, A. D. 1872.

Witnesses: JOHN WILLIAMS.

W. PRICE DAVIS,

TH. C. DAMBORG.