

# UNITED STATES PATENT OFFICE.

ISAAC ADAMS, JR., OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED NICKEL COMPANY.

IMPROVEMENT IN THE MANUFACTURE OF THE METALLIC PARTS OF FIRE-ARMS.

Specification forming part of Letters Patent No. 98,006, dated December 21, 1869.

*To all whom it may concern:*

Be it known that I, ISAAC ADAMS, Jr., of Boston, in the State of Massachusetts, have invented a new and useful Improvement in the Manufacture of the Metallic Parts of Fire-Arms, such as guns, muskets, rifles, carbines, revolvers, and pistols; and I do hereby declare the following to be a correct description of the same.

The metallic parts of fire-arms of all kinds are usually made of iron or steel, and easily oxidize if exposed to the moisture of the atmosphere, and particularly to the moisture arising from the changes of temperature caused by firing; and this oxidization impairs their beauty and their value for use. To protect these parts from oxidization, and to increase their beauty, it has been the practice to make certain of them of solid silver, or to cover the iron or steel parts with a coating of silver; but the solid silver is expensive and wholly unfitted for certain parts of fire-arms on account of its softness; and, even when put on as a coating to the iron or steel, it is so soft that it will wear but a short time, and, besides, the silver is liable to be tarnished by the sulphurous gases of the burnt powder. My invention or discovery consists in covering the metallic portions of small-arms with a compact, coherent, tenacious, and flexible coating of nickel; and I find that the advantages of such a coating over the plain iron or steel surface, and over the same plated with silver or made of solid silver, are many. The nickel coating is quite as hard as the steel; it does not oxidize; it protects the steel or iron from

oxidization; it takes a polish quite equal to the high polish of hard steel; its color is nearly the same as that of silver; it is much cheaper than silver. But the great and peculiar value of a nickel coating as applied to metallic parts of fire-arms is found in the fact that it is not tarnished or otherwise affected by the sulphurous gases of the burnt powder, which so badly tarnish silver, iron, and steel. The nickel coating is, therefore, particularly valuable as applied to the tube, nipple, and parts adjoining, which are especially heated by the explosion, and, from their changes of temperature, most liable to oxidization, and, from their position, most exposed to the sulphurous gases produced by the combustion of the powder.

I have coated these metallic parts of fire-arms with nickel by the process described in Letters Patent issued to me August 3, 1869; but I do not confine myself to the use of that process.

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

The improvement in the manufacture of fire-arms hereinbefore described, the same consisting in the application to their metallic parts, or any portion of them, of a compact, coherent, tenacious, and flexible coating of nickel, for the purposes specified.

The above specification of my said invention signed and witnessed at New York this 7th day of October, A. D. 1869.

ISAAC ADAMS, JR.

Witnesses:

F. A. MARDEN,  
E. A. QUINTARD.