

UNITED STATES PATENT OFFICE.

JOSEPH WHARTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BEARING-SURFACES AND JOURNALS OF MACHINERY.

Specification forming part of Letters Patent No. 118,086, dated August 15, 1871.

To all whom it may concern:

Be it known that I, JOSEPH WHARTON, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in the Bearings and Wearing-Surfaces of Machinery; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use my invention.

The said invention is an improvement in those parts of machinery which are exposed to friction and attrition; and it consists in making them of nickel, or of any alloy containing nickel, instead of the materials heretofore employed. The characteristic properties of nickel and of its alloys, namely, their superior hardness, their high melting point, their smoothness and lubricity, adapt them remarkably to the construction of journals, bearings, and all those parts which are liable to be worn and heated by friction. I accordingly make steps, journals, and bearings of shaftings, axle-boxes, clock-machinery, gibs, valves, pistons, interior linings of cylinders, and other wearing-surfaces of nickel or an alloy thereof. These

parts may either be cast solid so as to consist entirely of nickel or nickel alloy, or a shell of such metal may be used to line a box or cover a journal, or be applied as a ring to encircle a piston, or one or more pieces of such metal may be let into part of an entire surface, as is commonly done with Babbitt-metal.

By the employment of this material in the manner above described I dispense with the necessity of frequent adjustments, taking the machinery apart to replace worn parts, &c., which, as is well known, are often matters of more importance than the first cost of such parts of a machine.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The new manufacture above described, namely, journals and bearings, and bearings of shaftings, and wearing-surfaces of machinery made of nickel or nickel alloy, as specified.

JOSEPH WHARTON.

Witnesses:

WM. R. WRIGHT,
M. F. WALTON.