

# UNITED STATES PATENT OFFICE.

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OREGON.

LIQUID COMPOUND USED FOR TEMPERING AND TOUGHENING STEEL, IRON, OR OTHER METALS.

SPECIFICATION forming part of Letters Patent No. 571,646, dated November 17, 1896.

Application filed April 11, 1896. Serial No. 587,194. (No specimens.)

*To all whom it may concern:*

Be it known that we, ZACHARIAH TAYLOR CLARK and JONATHAN RICE NEILL, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Liquid Compound to be Used for Tempering and Toughening Steel, Iron, or other Metals, of which the following is a specification.

Our compound consists of the following ingredients combined in the proportions stated, viz: linseed - oil, four gallons and three quarts; sweet-oil, one pint; sulfuric acid, four ounces; blue vitriol, six ounces; common salt, five pounds; unslaked lime, two pounds.

The several ingredients are thoroughly mixed by shaking or otherwise.

The metal to be tempered is heated to the desired degree of heat and then immersed in

a hot state in the solution for a few seconds, the mixture acting almost instantaneously on the metal in such a manner as to temper and toughen it without checking or warping the metal, and a uniform temper of the desired degree can be readily obtained without trouble or mistake by the operator.

What we claim, and desire to secure by Letters Patent of the United States, is—

The compound herein described, to be used for tempering and toughening metals, consisting of linseed-oil, sweet-oil, sulfuric acid, blue vitriol, common salt and unslaked lime, in about the proportions stated.

ZACHARIAH TAYLOR CLARK.  
JONATHAN RICE NEILL.

Witnesses:

A. H. STEADMAN,  
JOHN M. CRESS.