

UNITED STATES PATENT OFFICE.

WILLIAM M. THEOBALD, OF WELLSVILLE, OHIO.

PROCESS OF FINISHING METAL SHEETS OR PLATES.

SPECIFICATION forming part of Letters Patent No. 627,021, dated June 13, 1899.

Application filed June 7, 1898. Serial No. 682,841. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM M. THEOBALD, a citizen of the United States, residing at Wellsville, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Processes of Finishing Metal Sheets or Plates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved process of finishing metal sheets or plates; and the object is to obtain a more uniform blue or black color of the sheets or plates.

To this end the invention consists in the process hereinafter more fully described, and particularly specified in the claims.

In annealing metal sheets or plates the same are placed upon the annealing pan or bottom and covered by the annealing-box, after which the box and pan are luted in the usual manner to prevent the ingress of air to the sheets or plates, which would result in excessive oxidation. The annealing-box and its contents are now charged into a suitable furnace and brought to the proper or desired degree of heat, approximately 1,400° Fahrenheit. Having attained the desired heat, I withdraw the box from the furnace in its heated state and let same stand until its contents have cooled to the desired temperature (approximately from 900° to 1,400° Fahrenheit) and then remove the sheets or plates, one or more at a time, from the annealing-box to expose them to the atmosphere until the proper degree of oxidation has been obtained, preferably a dark-blue color. This color, however, is not always perfectly uniform. This contemplates the first step of my process.

In the second and improved step of my process after I have removed the sheets or plates, one or more at a time, from the annealing-box I then cover them with any suitable cover, such as an annealing-box, and charge them into a suitable furnace to raise the temperature above that point to which it has fallen while the sheets or plates were being exposed to the air for oxidation. I then allow the furnace to cool off, thereby securing a uniform dark-blue or black color for the sheets or plates.

If it be desired to give the sheets or plates a gloss or high polish or to make them smooth, I take them from the furnace to smooth rolls, where the desired effect is attained. This step is not always necessary, as the trade sometimes prefers the sheets in the rough without gloss or finish.

Having thus fully described the invention, what I claim, and desire to secure by Letters Patent, is—

1. The process herein described, of preparing metal sheets or plates, which consists in subjecting said sheets or plates to an annealing degree of heat without contact with atmospheric air, then cooling the sheets or plates under the same conditions to a temperature of about 900° to 1,400° Fahrenheit, then exposing said sheets or plates to the atmosphere until they have obtained the proper degree of oxidation, then charging said sheets or plates into a suitable furnace to raise the temperature of the sheets above the point to which it has fallen while the sheets were exposed for oxidation, then allowing the sheets to cool off in said furnace, and protecting them from outside influences until they have reached the normal or outside temperature, substantially as set forth.

2. The process herein described, of preparing metal sheets or plates, which consists in subjecting said sheets or plates to an annealing degree of heat without contact with atmospheric air, then cooling the sheets or plates under the same conditions to a temperature of about 900° to 1,400° Fahrenheit, then exposing said sheets or plates to the atmosphere until they have obtained the proper degree of oxidation, then charging said sheets or plates into a suitable furnace and allowing them to cool off, and passing said oxidized sheets or plates between polished or smooth rolls, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

W. M. THEOBALD.

Witnesses:

W. F. LOUES,
JNO. W. RILEY.