

UNITED STATES PATENT OFFICE.

DAVID S. BROOKMAN, OF WELLSVILLE, OHIO, ASSIGNOR TO AMERICAN SHEET & TIN PLATE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

MANUFACTURE OF PLATES AND SHEETS.

941,854.

Specification of Letters Patent.

Patented Nov. 30, 1909.

No Drawing.

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To all whom it may concern:

Be it known that I, DAVID S. BROOKMAN, of Wellsville, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in the Manufacture of Plates and Sheets, of which the following is a full, clear, and exact description.

My invention has relation to the manufacture of metal plates and sheets and is designed to provide a novel method of treatment, whereby the plates are given a polished oxidized blued surface or finish of superior character.

A further object of the invention is to provide a method of this character which will materially reduce the number of steps of operations which have heretofore been necessary for the production of a finish of this character, thereby materially reducing the time, labor and cost of manufacture and correspondingly increasing the output of the mill.

A still further object is to provide a method by which the finished plates or sheets will be perfectly flat and free from warping or buckling, such as has been experienced heretofore in the manufacture of this class of plates and sheets.

In accordance with my invention, I take the plates or sheets which have been hot rolled in the usual manner and place them in an annealing box and bring them up to an annealing temperature. The box with the contained plates or sheets is then removed from the furnace and steam is introduced to produce an oxidizing atmosphere,

while the plates are cooling. The resulting oxidation of the plates produces what is known as a "steam blued" finish, and the cold plates or sheets are then given one or more cold roll passes, one being usually sufficient. They are then again annealed and allowed to partially cool in the annealing box out of contact with the atmosphere. They are then in their partially cooled state and preferably at a temperature of about 300° F. to 1000° F., passed through one or more stands of polishing rolls, being further cooled during this operation. After they are cold, they are then given a final finishing cold roll pass. The effect of this cold finishing pass is to remove all buckling or warping produced by the warm pass, and gives a perfectly flat sheet with a highly polished uniform blued finish.

I claim:

In the manufacture of plates or sheets, the method which consists in annealing the plates, subjecting them to the oxidizing action of steam while they are cooling, then cold rolling them, then annealing and allowing them to partially cool out of contact with the air, then passing them in a partially cooled condition between finishing rolls, and finally cold rolling, substantially as described.

In testimony whereof, I have hereunto set my hand.

DAVID S. BROOKMAN.

Witnesses:

F. L. WELLS,
W. R. MACDONALD.