

UNITED STATES PATENT OFFICE.

REGINALD L. GOODING, OF BRIDGETOWN, BARBADOS, BRITISH WEST INDIES.

PROCESS OF TREATING STEEL TO PREVENT RUSTING.

1,247,668.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, REGINALD L. GOODING, a subject of the King of Great Britain, residing at Bridgetown, Barbados, British West Indies, have invented certain new and useful Improvements in Processes of Treating Steel to Prevent Rusting; and I do hereby 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.

The invention relates to a process of treating iron and steel to prevent rusting.

The object of the present invention is to enable steel to be treated so that when it is exposed to the atmosphere it will be effectively prevented from rusting.

In carrying out the process the steel to be treated is thoroughly cleaned and all the dirt removed from the surface of the same.

Phosphoric acid (preferably the strongest obtainable from commercial phosphoric acid at thirty-five per cent. to glacial phosphoric acid at eighty-five per cent.) is applied to the surface of the steel. This may be effected in a variety of ways and by any desired method or apparatus. As soon as signs of bubbling appear the treated surface of the steel is sprinkled with powdered iron filings. Active bubbling will then be immediately observed and when this appears to have ceased the surface of the steel acted on is rubbed over several times with a hard brush and the steel is then allowed to cure for a period of forty-eight hours.

This treatment of the steel may be repeated a second and a third time and within about twenty-four hours of the third treatment the entire surface of the steel is subjected to a thin coat of oil. The thin coat of oil may be applied by any suitable means and various kinds of oils may be employed either mineral, vegetable or animal.

While powdered iron filings are referred to finely divided comminuted particles of iron may be obtained in any other desired manner and the cleaning of the surfaces of the metal to be treated may be effected in any desired manner. The metal to be treat-

ed may be placed in a bath of the strong phosphoric acid or the latter may be applied to the metal in any other desired manner. Also the iron filings may be sprinkled over or applied to the treated surface of the iron in any desired manner and by any suitable means.

After the final treatment of the metal has occurred and the thin coating of oil applied to the treated metal the latter is permitted to cure for about a period of two weeks. It has been found by experience that steel treated in accordance with the present process will not rust when exposed in an atmosphere containing considerable moisture.

What is claimed is:—

1. The process for treating steel for preventing rust which consists in subjecting the steel to the action of strong phosphoric acid and applying finely powdered or comminuted iron particles to the treated surface of the steel.

2. The process for treating steel for preventing rust which consists in subjecting the steel to the action of strong phosphoric acid and applying finely powdered or comminuted iron particles to the treated surface of the steel, repeating the aforesaid treatment at intervals and applying a thin coat of oil to the metal treated.

3. The process herein described for treating steel to prevent rust which consists in cleaning the surface of the metal to be treated, subjecting the metal to the action of strong phosphoric acid until bubbling appears, sprinkling the treated surface with finely divided particles of iron and permitting the same to remain until the bubbling appears to cease, then brushing the surface and repeating the aforesaid treatment at intervals and finally applying a coating of oil to the treated surfaces and permitting the metal to cure for a period of time.

In testimony whereof I affix my signature in presence of two witnesses.

REGINALD L. GOODING.

Witnesses:

C. LUDLOW LIVINGSTON,
P. A. LIVINGSTON.