

UNITED STATES PATENT OFFICE.

EPHRAIM S. MORTON, OF BROCKTON, MASSACHUSETTS.

METHOD OF PRODUCING ROUGHENED WIRE NAILS.

SPECIFICATION forming part of Letters Patent No. 745,224, dated November 24, 1903.

Application filed November 15, 1902. Serial No. 131,577. (No specimens.)

To all whom it may concern:

Be it known that I, EPHRAIM S. MORTON, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Methods of Producing Roughened Wire Nails, of which the following is a specification.

This invention relates to wire nails which are provided with a rough surface, whereby the nail is enabled to adhere more firmly to the substance into which it is driven than nails having the ordinary smooth surface imparted to the wire from which they are made.

The invention consists in the improvements which I will now proceed to describe and claim.

In carrying out my invention I roughen the surfaces of a mass of wire nails by any suitable means, such as by immersion in a suitable acid solution or by exposure to water, producing a surface such as may be produced by rusting or oxidation. I then apply to the said roughened surfaces a paste composed of a mixture of combustible fluid material adapted to be dissipated by heat, such as linseed or other suitable oil, and a powdered relatively refractory material, such as silica, which is the preferred material, although other materials, such as lampblack or whiting, may be employed. The nails thus treated are next subjected to a suitable degree of heat to consume or dissipate the oil and cause the residuum, consisting mainly of the powdered material, to adhere firmly to the previously-roughened surface of the nail. I also roughen said residuum, preferably by agitating or tumbling the nails and preferably while they are being heated, the tumbling operation causing the contact of the nails against each other to roughen the residual coating and enabling the nail to firmly adhere to the substance into which it may be driven. Preferably the nails are placed in a tumbler which is adapted to be heated, the heating and tumbling being carried on at the same time. I find that the powdered material is thus caused to adhere with such firmness to the nail that it cannot be removed by the pressure against it of the substance into which the nail is driven, so that it enters the substance with the nail without being scraped off by contact with said substance. The

roughness imparted to the residual material by the tumbling operation causes a firm and intimate union between the nail and the substance in which it is embedded.

I do not limit myself to oil as an ingredient of the paste and may employ any other suitable material adapted to form a paste by admixture with a refractory powder and capable of being dissipated by the action of heat.

I claim—

1. The hereinbefore-described method of producing rough-surfaced wire nails, the same consisting in roughening the metallic surfaces of the nails, applying to the roughened surfaces a paste composed of a mixture of material capable of being dissipated by heat, and powdered relatively refractory material, removing a part of said mixture by heat, and roughening the residuum.

2. The hereinbefore-described method of producing rough-surfaced wire nails, the same consisting in roughening the metallic surfaces of the nails, applying to the roughened surfaces a paste composed of a mixture of material capable of being dissipated by heat, and powdered, relatively refractory material, removing a part of said mixture by heat, and tumbling the nails to roughen the residuum.

3. The hereinbefore-described method of producing rough-surfaced wire nails, the same consisting in roughening the metallic surfaces of the nails, applying to the roughened surfaces a paste composed of a mixture of oil and powdered refractory material, heating said paste to remove the oily ingredient thereof, and roughening the residuum.

4. The hereinbefore-described method of producing rough-surfaced wire nails, the same consisting in roughening the metallic surfaces of the nails, applying to the said roughened surfaces a paste composed of a mixture of oil and powdered refractory material, heating said paste to remove the oily ingredient thereof, and tumbling the nails to roughen the residuum.

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

EPHRAIM S. MORTON.

Witnesses:

C. F. BROWN,
E. BATCHELDER.