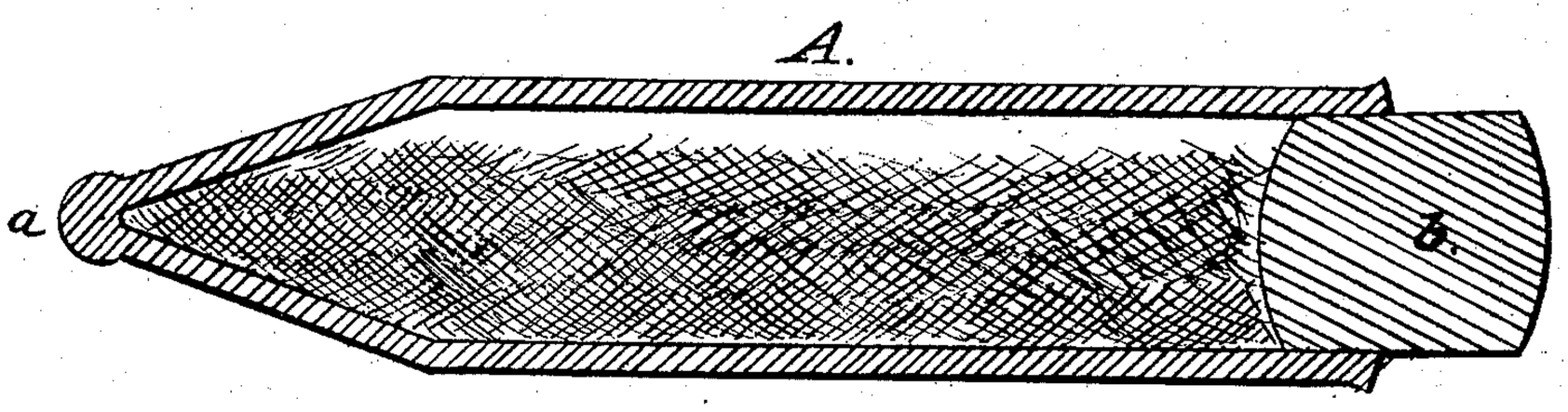
J. McCARTY.

Annealing Nails.

No. 32,525. Patented June 11, 1861.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES McCARTY, OF READING, PENNSYLVANIA.

ANNEALING CUT NAILS.

Specification of Letters Patent No. 32,525, dated June 11, 1861.

To all whom it may concern:

Be it known that I, JAMES MCCARTY, of Reading, Berks county, Pennsylvania, have invented a new and Improved Process of Annealing Cut Nails; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to a process, described hereafter, whereby nails which are cut from plates of iron by means of ordinary nail machines, are so thoroughly annealed as to be rendered stronger, more ductile, and less friable, than nails annealed by the usual processes.

Cut nails as they leave the machine are so fragile and brittle as to be of little use excepting for the most common carpentry work, it has been usual therefore to soften or anneal them by simply submitting them to a proper degree of heat, and then allowing them to cool gradually. This in some measure destroys their friability, their toughness however is far from equal to that of ordinary wrought nails.

I have discovered by repeated experiments that by the following process cut nails may be reduced to such a state of toughness and ductility as to greatly increase their value and render them in every respect equal to the best quality of wrought nails, the process at the same time imparting to the nails an enamel-like surface similar to that on Russia sheet iron, which prevents the rust and consequent deterioration to which ordinary cut nails are subject by exposure.

I take a tube A of wrought iron such as is used in the construction of steam boilers, the dimensions of the tube depending upon the size of the fire in which it is to be placed and the facilities afforded for ready handling.

The tube with which I have practiced my process is about four feet long and six inches in diameter, welded at the end *a* so as to be made perfectly air tight and furnished at the opposite end with a tightly fitting detachable plug *b* of cast iron. The vessel thus constructed is nearly filled with nails taken from the machine, and, with its contents, is reduced to a red heat in a suitable fire from which it is withdrawn, laid on the ground and allowed to cool for from six to twelve hours, and, the vessel being maintained air tight, during the heating and cooling process.

In withdrawing the plug from the end of the tube, and removing the nails therefrom, they will be found to adhere slightly to each other forming a mass which can be readily disintegrated by little more than a slight touch.

On examining the nails it will be found that the surface of each is covered with a thin enamel-like coating similar to that on Russian sheet iron and on submitting them to a test they will be found of such extraordinary ductility and toughness as to render them much more valuable than ordinary cut nails.

I claim as my invention, and desire to secure by Letters Patent:

Annealing cut nails by confining them in a suitable vessel subjecting both vessel and contents to a red heat and allowing the whole to cool from six to twelve hours according to the size of the nails and tube, and maintaining the vessel air tight during the heating and cooling process as set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witneses.

JAMES McCARTY.

Witnesses:

JOSEPH KAUL,

EZEKIEL JONES.