

United States Patent Office.

JOHN H. NOLF, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF
AND JOHN D. WILLIAMS, OF SAME PLACE.

Letters Patent No. 77,904, dated May 12, 1868.

IMPROVED COMPOSITION FOR REFINING AND TOUGHENING IRON.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN H. NOLF, of Philadelphia, Pennsylvania, have invented an Improvement in the Manufacture of Iron; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists in the treatment of iron, during the process of puddling, with a composition consisting of ingredients described hereafter, so that the wrought iron produced may be of a most tough and malleable character.

In order to enable others skilled in the art to practise my invention, I will now proceed to describe the mode of carrying the same into effect.

For a charge of five hundred pounds of pig-iron, I prepare the following composition:

Red lead, one and one-half pound; chloride of potassa, four ounces; nitrate of potassa, four ounces; manganese, from four to six ounces; common salt, from one to two pints.

When the pig-iron has been so long in the puddling-furnace as to be thoroughly melted, I throw the above composition into the molten metal, at the same time keeping the dampers of the chimney closed for a few minutes, after which I raise the damper and work the metal in the ordinary manner practised for converting cast into wrought iron.

I have found, by treating the metal with the ingredients and in the manner described, that a wrought iron of a most tough and tenacious character may be produced; so tough, in fact, that in the state of an unfinished, unrefined bar, it is equal in quality to the best rerolled refined iron.

Although the proportions of the above ingredients may be altered in accordance with the quality of the iron to be treated, it is necessary that the whole of the ingredients, or their equivalents, should be used together in order to obtain the desired result.

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

The treatment of iron during the process of puddling with a composition, consisting of the within-described ingredients, or their equivalents, in the manner and for the purpose described.

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

JOHN H. NOLF.

Witnesses:

JOHN WHITE,
C. B. PRICE.