

UNITED STATES PATENT OFFICE.

ANSON G. COOK, OF BURLINGTON, VERMONT.

IMPROVEMENT IN THE MANUFACTURE OF IRON AND STEEL.

Specification forming part of Letters Patent No. **166,454**, dated August 10, 1875; application filed May 13, 1875.

To all whom it may concern:

Be it known that I, ANSON G. COOK, of the city of Burlington, in the county of Chittenden and State of Vermont, have invented a new and useful Metallic Compound, the composition and manufacture of which are fully set forth in the following specification.

My invention consists in combining certain grades of pig-iron, steel, and wrought-iron, in the proportions hereinafter named, by which a new product is obtained possessing nearly all the properties of steel.

Nothing new is claimed in the process by which these elements are combined so as to form a homogeneous metal. It is essentially set forth in prior patents of the United States already granted me, to wit, No. 52,684, dated February 20, 1866, for an improvement in cupolas or blast-furnaces, and No. 62,819, dated March 12, 1867, for an apparatus for rectifying or refining iron.

The formula which I use, but which may be slightly varied, as occasion may demand, is as follows: To every six hundred pounds of gray iron, commonly known as No. 1 iron, add from five to eight hundred pounds of white iron, known as No. 6 iron, and two hundred

pounds of Scotch iron, and upon this place one hundred pounds of steel and fifty or more pounds of wrought-iron. This mass is placed upon the coal-bed of my cupola or blast-furnace, and when thoroughly fused and in proper condition, is drawn into my refiner. By this process the necessary elements which are essential to great strength, toughness, and hardness of the iron, required to be used, are thoroughly developed and become absorbed and assimilated by the above mixture, and the result is an iron combining, in its elements, the greatest elasticity, strength, and durability, and possessing a surface susceptible of the highest polish.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A metal composed of gray or No. 1 iron, white or No. 6 iron, Scotch iron, steel, and wrought iron combined, in about the proportions and substantially as described.

ANSON G. COOK.

Witnesses:

RICHARD W. JONES,
W. M. DESPARD.