UNITED STATES PATENT OFFICE.

LOUIS PERIN, OF ST. AMAND-LES-EAUX, FRANCE.

MANUFACTURE OF MOLDED BLOCKS OF STEEL OR OTHER MATERIAL.

SPECIFICATION forming part of Letters Patent No. 652,980, dated July 3, 1900.

Application filed January 26, 1900. Serial No. 2,876. (No specimens.)

To all whom it may concern:

Be it known that I, LOUIS PERIN, a citizen of the Republic of France, and a resident of St. Amand-les-Eaux, France, have invented certain new and useful Improvements in the Manufacture of Molded Blocks of Steel or other Materials, of which the following is a specification.

My invention relates to an improved process of manufacturing steel blocks, which consists in melting, by means of coke and a strong air-blast in an ordinary cupola, any kind of old steels of any nature—hard, semihard, or soft—and scrap-iron of all kinds—such as waste parings, clippings, and pieces of sheet-iron, broken galvanized iron, and the like—with a mixture of manganese, silicon, lime, magnesia, aluminium, chromium, nickel, and tungsten, used in variable proportions, according to the degree of hardness desired to be obtained. The steel thus melted perfectly limpid is cast in sand molds of the shape of the pieces desired to be obtained. After cooling the cast pieces are placed in suitable vessels or receptacles formed of steel or refractory material and are surrounded by iron ore mixed with lime and chips or scales from rolled iron until the vessels are full, when they are placed in a reheating or annealing furnace, where they are raised during a period which may vary from one to five days, (more or less,) according to the dimensions of the pieces under treatment, to a temperature sufficiently high for the ore to take up the excess carbon contained in the pieces. The decarburation obtained affects the entire substance of the pieces such as they are and without any limit. By this process, therefore, all kinds of pieces, whatever be their form or the use for which they are intended, can be made. There can likewise be obtained by this process special steels, such as tool-steel, and in general all steels which can be obtained in melting-pots or crucibles.

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

The process of manufacturing cast and other steels melted in a cupola which consists in melting, by means of coke, any kind of old steel and iron with a mixture of manganese, silicon, lime, magnesia, aluminium, chromium, nickel, and tungsten, used in variable proportions; in casting the steel thus melted in appropriate molds; in piling up, around the cast pieces, in suitable containing vessels iron ore mixed with lime and chips or scales from rolled iron and the like, and in raising, in a reheating or annealing furnace, the molded pieces and the surrounding mixture to a temperature sufficient for the ore to take up the excess of carbon contained in the pieces, substantially as above described.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

LOUIS PERIN.

Witnesses:
O. LÉON,
C. SCHRT.