

UNITED STATES PATENT OFFICE.

GASTON DE VELNA, OF PARIS, FRANCE, ASSIGNOR TO ARTHUR STANLEY RIGGS, OF EAST ORANGE, NEW JERSEY.

PROCESS FOR UTILIZING CLOSE-BURNING COAL-DUST FOR MAKING METALLURGICAL COKE OR OTHER KINDS OF COKE.

No. 847,134.

Specification of Letters Patent.

Patented March 12, 1907.

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To all whom it may concern:

Be it known that I, GASTON DE VELNA, a citizen of the Republic of France, chemist, residing at 13 Boulevard des Batignolles, Paris, France, have invented new and useful Improvements in a Process for Utilizing Close-Burning Coal-Dust for Making Metallurgical Coke or other Kinds of Coke, of which the following is a specification.

The object of the present invention consists in a process for utilizing the dust of close-burning coal for making metallurgical coke or other kinds of coke.

This process is designed to utilize all kinds of close-burning coal-dust, or, in other words, all kinds of carbonaceous dust practically free of volatile material. Up to the present time this has been considered useless in the manufacture of coke and practically a waste product. The larger percentage of the briquets which are formed by this process consists of either anthracite-dust, close-burning coal-dust, gas-coke dust, lignite-dust, peat-coke dust, or any other kind of coal-dust which is practically deprived of volatile material, or a mixture of any or all of these materials. Thus the base or major portion of the briquets consists of from eighty-one to eighty-seven per cent. of coal-dust deprived of volatile material. To this base is added from two to four per cent. of dry tar or pitch, three to five per cent. of semifat coal, and eight to ten per cent. of coal-tar, the mixture containing approximately the same chemical ingredients that are present in a first-class coking-coal. The whole mass is finely crushed in any suitable way and thoroughly

mixed together, forming a homogeneous pasty substance. This paste is then charged into a briqueting-machine, in which it is molded into briquets, in the cold and without the presence of watery vapor, under a heavy pressure, never less than eighty atmospheres to the square centimeter and oftentimes much greater. The briquets are then coked in any suitable kind of a coking-furnace and the coke thus obtained slaked in the ordinary way. If the pressure used in the briqueting-machines is very heavy, the result will be a first-class metallurgical coke, eminently suitable for use in blast-furnaces, foundries, &c.

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

The process of making coke, which consists in mixing coal-dust deprived of volatile matter with dry tar, semifat coal, and coal-tar in the following proportions, from eighty-one to eighty-seven per cent. of coal-dust, two to four per cent. of dry tar, three to five per cent. of semifat coal, and eight to ten per cent. of coal-tar, thoroughly pulverizing and mixing the same in the cold without the addition of watery vapor, compressing the material into briquets under heavy pressure, and finally coking the same, substantially as described.

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

GASTON DE VELNA.

Witnesses:

EUGENE BARON DE FERSEN,
HANSON C. COXE.