

UNITED STATES PATENT OFFICE.

DOMINIC E. COUTARET, OF NEW YORK, N. Y.

IMPROVEMENT IN PREPARING ARTIFICIAL FUEL.

Specification forming part of Letters Patent No. 41,832, dated March 8, 1864.

To all whom it may concern:

Be it known that I, DOMINIC E. COUTARET, of New York city, New York, have invented a new and improved process applied to the agglomeration of small common fragments of anthracite which obstruct the coal-mines, and which are unsalable by reason of their impossibility to burn in any furnace; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying samples.

The anthracite not being bituminous, it is not possible to obtain the agglomeration of small fragments without the addition of an agglutinative substance capable to reunite them together in a solid state. The substance which is preferable is pitch or tar, but its fusibility is a grave inconvenience, because the heat operates the disaggregation of the particles of coal, which run with the tar through the grate of the furnace, where the combustion is to operate. To obviate this inconvenience I have invented a process based upon the properties, well known in chemistry, which possess certain metallic oxides to form with greasy, resinous, and bituminous substances insoluble and infusible compounds without ceasing to be combustible. These metallic oxides are principally those of barium, calcium, and of strontium.

To enable others to make and use my inven-

tion, I will proceed to describe my process and the manner to apply it to the fabrication of a suitable fuel.

I operate in an oven or other known apparatus heated at about 200° centigrade thermometer the mixture, as perfect as possible, of the following substances: small fragments of anthracite, one hundred parts; pitch or tar, eight parts; metallic oxide, eight parts. I commonly use hydrated oxide of calcium (slaked lime) on account of its low price. As soon as this mixture is perfectly homogeneous I place it into molds to submit it to as strong a pressure as possible. This coal taken out of the molds acquires, by cooling, a great consistence, and can be used as fuel without melting, on account of the chemical combination of the metallic oxide with the pitch or tar.

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

The use of compounds known in chemistry under the name of "insoluble soaps," in order to effect the agglomeration of small common fragments of anthracite and obtain the infusible fuel prepared as described.

New York, June 4, 1863.

D. E. COUTARET.

Witnesses:

FER. CHOME,
E. SPORTZ.