

UNITED STATES PATENT OFFICE.

HELEN M. VAN ETTEN, OF MORAVIA, NEW YORK.

ARTIFICIAL FUEL.

SPECIFICATION forming part of Letters Patent No. 723,561, dated March 24, 1903.

Application filed March 28, 1902. Serial No. 100,393. (No specimens.)

To all whom it may concern:

Be it known that I, HELEN M. VAN ETTEN, a citizen of the United States, and a resident of Moravia, in the county of Cayuga, in the State of New York, have invented new and useful Improvements in Artificial Fuel, of which the following, taken in connection with the accompanying drawing, is a full, clear, and exact description.

10 This invention has special reference to the artificial fuel described in my Letters Patent No. 638,612, dated December 5, 1899.

The object of my present invention is to simplify and reduce the cost of the manufacture of the fuel by omitting the boiling of the compound and dispensing with the admixture of sal-soda.

20 In practicing my invention I proceed as follows, to wit: When anthracite-coal dust is to be used as the basis of the fuel, I take about one thousand pounds of the fine coal which is known as the "refuse of washed anthracite" and thoroughly mix with said quantity of fine coal about one thousand pounds of the aforesaid coal-dust. If this dust cannot be conveniently obtained, it may be produced by crushing coal of a somewhat-coarser grade. With this mixture of fine coal and dust I mix about ten pounds of bituminous substance, which may be either bituminous coal or asphalt and which serves to coke the anthracite when burning. I further add to the aforesaid mixture about five pounds of alum, which acts on the bitumen when coming in contact with heat and renders the combustion of said bitumen smokeless. By adding to the aforesaid mixture about ten pounds of whiting I increase the cohesion of the aforesaid coke, inasmuch as said whiting acts as a binder in the mass.

When the bituminous coal and dust is to

be used in place of anthracite as the basis of the fuel, the asphalt is not required. The alum, however, is to be added in a larger quantity than hereinbefore stated and dissolved in water and thoroughly mixed with the dust to obviate emission of smoke and dust from the bitumen in combustion. The whiting may also be dispensed with in this case, if economy is desired.

When my invention is to be practiced with lignite as the basis of the fuel, the absence of coking property in said material renders the addition of either bituminous coal or asphalt absolutely necessary and may require a larger proportion of alum and whiting.

It will thus be observed that the proportions of the ingredients of the compound require modifications according to the character or quality of the coal or basis of the compound, and I therefore do not limit myself in that respect. In each case, however, the artificial fuel may be used either in a wet or in a dry condition with equally great efficiency.

The herein-described compound reduces to a minimum the cost of the manufacture of the artificial fuel, and experience has convinced me that it possesses the same efficiency as the fuel described in my Letters Patent hereinbefore referred to.

What I claim as my invention is—

1. A composition for artificial fuel consisting of mineral coal mixed with bitumen and alum in about the proportion set forth.

2. A composition for artificial fuel consisting of fine coal mixed with coal-dust, bitumen, alum and whiting as set forth.

HELEN M. VAN ETTEN.

Witnesses:

H. SEIDMAN,
J. J. LAASS.