

UNITED STATES PATENT OFFICE.

MICHAEL ANDES, OF WILKESBARRE, PENNSYLVANIA.

ARTIFICIAL BLOCK FUEL.

SPECIFICATION forming part of Letters Patent No. 776,373, dated November 29, 1904.

Application filed July 28, 1904. Serial No. 218,454. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL ANDES, a citizen of the United States, residing at Wilkesbarre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Artificial Block Fuel, of which the following is a specification.

This invention relates to an artificial block fuel, and has for its object to form a fuel block to be principally composed of anthracite-coal refuse and bituminous-coal dust and to hold the particles of coal together in the form of a block by means of a mechanical binder distributed through the block and also a cement binding both the coal particles and the mechanical binder.

Attempts have heretofore been made to produce a block fuel composed of anthracite and bituminous coals, and while it has been found that this mixture will give excellent results considerable difficulty has been experienced in maintaining the mixture in a block form which will not readily crack and crumble. By my invention I am able to combine the two coals both mechanically and chemically and form them into blocks that will not crack or crumble during transportation or while stored.

In preparing the components I preferably take the fine anthracite-coal slack—the waste as it comes from the breaker—the quantity being about four parts of the entire bulk that is to be mixed, and add thereto about one part of bituminous-coal dust. I then incorporate with the coal a chemical binder, such as dry Portland cement, in about one-part quantity of the whole bulk. The three substances are

thoroughly mixed, and during said mixing water is gradually added until the mass assumes a stiff plastic form, and while in this condition the mixing is continued, and at same time I introduce into the mass one part of fibrous or stringy vegetable material—such as chopped old rope disintegrated, chopped cotton-waste, chopped excelsior, or other wood slivers—which is thoroughly distributed throughout the plastic mass. This mixture of five components is then formed into blocks by any suitable means, such as by molds, and allowed to stand until the block becomes hardened. As the block dries the fibrous binding material will contract or shrink, and besides being inflammable it serves to mechanically prevent fracture of the block, while the cement binds together both the coal particles and the vegetable fibrous material.

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

An artificial block fuel composed of about four parts of anthracite coal, one part of stringy inflammable binding material capable of shrinking when drying out, one part of cement to secure the stringy material to the coal particles and one part of bituminous-coal dust, the ingredients being mixed in a manner substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL ANDES.

Witnesses:

FRED. ROTH,
JOSEPH RITTMAYER.