

UNITED STATES PATENT OFFICE.

DE WITT C. BREED, OF BUFFALO, NEW YORK.

IMPROVEMENT IN COMPOUNDS TO INCREASE THE COMBUSTION OF FUEL.

Specification forming part of Letters Patent No. **202,092**, dated April 9, 1878; application filed June 19, 1876.

To all whom it may concern:

Be it known that I, DE WITT C. BREED, of Buffalo, in the county of Erie and State of New York, have invented a new and useful compound for promoting the ignition and combustion of anthracite coal and other fuels, of which the following is a specification:

It is well known that a large amount of gas and combustible smoke escapes from an anthracite fire and passes off in the flue or chimney. At the same time the pieces of half-consumed coal leave a dull fire behind.

The object of my invention is to increase the heat upon the surface of the pieces of coal throughout the mass, and also at the surface of the fire or bed of coals, and thus consume these gases as they are generated or before they leave the fire-chamber.

My invention or improved compound for promoting the combustion of coal consists of the mixture of the following ingredients: Soda-ash or carbonate of soda, one hundred pounds; anthracite-coal ashes, one hundred pounds; charcoal powder or dust ten pounds. These ingredients are well mixed together, and used in the following manner: One pound of the above compound is strewn upon three hundred pounds of anthracite coal, or in about this proportion.

A very good way of mixing the compound with the coal is to scatter the compound upon the coal in the cart before it leaves the yard to be delivered to the customer. In this way

the compound becomes well mixed with the coal by the shaking of the cart. But the compound may be mixed with the coal in any suitable manner.

I do not confine my invention to the exact proportions above mentioned, so long as the compound is substantially the same.

When the coal is ignited the compound is fused into a porous slag, which coats the pieces of coal, and thus holds the fused soda on the surface of said pieces where the first gas is generated. The presence of the soda increases the heat and facilitates the combustion of the gas as it is generated. The fused compound also unites with the incombustible matter of the coal, thus acting as a flux, and forming a soda-slag having an increasing proportion of coal-ash, and yet containing plenty of soda-ash, which is not exhausted by the continuance of the combustion.

If soda-ash be used without the coal-ashes or its equivalent, the soda-ash is too rapidly volatilized. This is prevented or diminished by my compound.

Having described my invention, I claim—

The compound of soda-ash, coal-ashes, and charcoal, substantially in the manner and for the purposes set forth.

DE WITT C. BREED.

Witnesses:

SYLVESTER O. GOULD,
HENRY W. BRENDEL.