

UNITED STATES PATENT OFFICE.

PARKER F. MOREY, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN PURIFYING COAL.

Specification forming part of Letters Patent No. **200,663**, dated February 26, 1878; application filed November 21, 1877.

To all whom it may concern:

Be it known that I, PARKER F. MOREY, of Oakland, in the county of Alameda and State of California, have invented a Process for Purifying Coal; and I do hereby declare the following description is sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to a novel process by which I am enabled, at a small expense, to purify coals and separate out all impurities, so as to produce a high grade of coal from an impure and nearly worthless article.

It consists in treating coal with a bath of sulphuric acid (oil of vitriol) diluted with water to such a density that the coal will float and leave the impurities at the bottom.

In order to carry out my process the coal is pulverized, if it is not already in a fine state. If it is in the form of screenings or fine slack or waste no preparation will be necessary, and this waste may be first purified, and then utilized by another process which I have invented.

The principal impurities which are found in coal together are sulphur, slate, earthy matter, iron pyrites, &c., and these I separate by means of my process.

The coal, after being pulverized, is first thrown into water and allowed to become thoroughly wet and absorb as much as it will, after which it is thrown into a bath composed

of sulphuric acid and water, in the proportion of about one part of acid and two parts of water. This, or a similar proportion, will give me a solution sufficiently dense, so that the most of the impurities will fall to the bottom, while the coal will float or be held in suspension in the liquid, so that it can be readily taken out free from the other substances. I have found that the amount of the solution is also somewhat increased and its strength is kept up by means of the free sulphur which is separated from the coal.

By the use of this bath, whose specific gravity may be increased or diminished to suit the material to be separated, I am enabled to cleanse the coal and make it valuable as a fuel or for smelting purposes.

I do not claim, broadly, the employment of a bath having a certain specific gravity for the purpose of separating coal from its impurities; but

What I do claim as new, and desire to secure by Letters Patent, is—

The herein-described bath, composed of a solution of water and sulphuric acid, of the proper density to separate coal from its impurities, substantially as herein described.

In witness whereof I have hereunto set my hand and seal.

PARKER F. MOREY. [L. S.]

Witnesses:

JNO. L. BOONE,
FRANK A. BROOKS.