

UNITED STATES PATENT OFFICE.

DANIEL F. PACKER, OF MYSTIC RIVER, CONNECTICUT.

IMPROVEMENT IN THE MANUFACTURE OF ARTIFICIAL FUEL.

Specification forming part of Letters Patent No. **157,758**, dated December 15, 1874; application filed September 24, 1874.

To all whom it may concern:

Be it known that I, DANIEL F. PACKER, of Mystic River, county of New London and State of Connecticut, have invented an Improved Process of Utilizing Coal Dust or Dirt, Peat, or Sawdust into Artificial Coal or Fuel, of which the following is a specification:

This invention relates to that class of processes employed for amalgamating coal dust or dirt with pitch or rosin; and it consists in mixing the above articles while in a dry, cold, and pulverized state before applying heat.

In carrying out my invention, take to every one hundred pounds of coal-dust ten pounds of pulverized pitch or rosin, all in a dry, cold state. These are put into the revolving and mixing drum, (arranged with separating-arms on the inside,) which is then closed and set in motion over a fire twenty minutes, when it will be found thoroughly mixed, and reduced to a doughy consistency, capable of being pressed into slabs, blocks, or any shape required.

I am aware that rosin has before been used for the purpose, but in a melted state or solution, which is only capable of taking up or mixing two to three times its weight, and when ignited crumbles, melts, and emits an intense amount of smoke; whereas, by my process and pressure, the same amount of rosin takes up and amalgamates eleven times

its weight, and burns without melting. I propose to take pitch or rosin and mix in a dry state. I take of any resinous substance, say, ten pounds. This I grind and pulverize in a crusher, and sift the same into, say, ninety pounds of coal-dust, sawdust, or peat, while the coal-dust, sawdust, or peat is being passed into a revolving and mixing drum, arranged with separating arms or knives on the inside. The drum is then closed and set in motion, and when the contents are well mixed heat is applied while the whole is in motion, until the rosin or pitch is melted, and the whole thoroughly amalgamated and reduced to a doughy consistency. The amalgamated mass thus formed is speedily removed to a press, and formed into slabs, blocks, or bricks of any required form or size, and on cooling is ready for use as fuel.

I claim as my invention—

The process of manufacturing artificial fuel by mixing coal-dust with a resinous substance, while the latter is in a cool, dry, and pulverized condition, and then causing a more intimate mixture by subjecting the substances together, and while being agitated, to the action of heat, substantially as described.

DANIEL F. PACKER.

Witnesses:

F. A. HOLMES,
B. L. MILLER.