

UNITED STATES PATENT OFFICE.

MARTIN N. DIALL, OF TERRE HAUTE, INDIANA.

IMPROVEMENT IN PROCESSES OF PREPARING GAS-FUEL.

Specification forming part of Letters Patent No. **186,082**, dated January 9, 1877; application filed May 22, 1876.

To all whom it may concern:

Be it known that I, MARTIN N. DIALL, of Terre Haute, Vigo county, Indiana, have invented a new and useful Improvement in the Process of Preparing Gas-Fuel, of which the following is a specification:

The invention will first be described, and then pointed out in the claim.

I take wood and saturate it by immersing it in any hydrocarbon oil for from six to twelve hours, as required by the nature of the wood, for taking up the necessary quantity of oil for the required strength of gas; then immerse the wood in a bath of water for four hours, or thereabout, for taking up a quantity of water outside the oil, and then charge the wood in the retorts, the same as coal, and distill it the same, by which I produce fixed gas equal to coal-gas, much faster and with less expense, the wood and water furnishing the hydrogen, and the oil furnishing the carbon.

I am aware that sawdust, sand, and other vehicles have been employed for conveyance of the oil into retorts; but the first shovelfull generates so fierce a flame that the men can-

not well proceed, or close the retort, while the richest gas is consumed. After saturating the wood with oil, I soak it in water, so that when shoveled into retort ignition cannot occur until the retort has been closed.

I am also aware that it is not new to first wet sawdust or small pieces of wood, before soaking in oil, for making a suitable gas-fuel; but this fills the pores with water, and prevents the absorption of hydrocarbon to a great extent. To avoid this I first soak the wood in oil, so as to completely fill the pores, and then immerse it in water to give it a wet surface before the fuel is introduced into the retort; hence,

What I claim is—

A process of preparing wood for gas-fuel, by first soaking it in hydrocarbon, and then immersing in water to give a wet surface previous to its introduction into the retort, as and for the purpose set forth.

MARTIN N. DIALL.

Witnesses:

HENRY McCABE,
T. C. ANDERSON.