

UNITED STATES PATENT OFFICE.

S. LLOYD WIEGAND, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED PROCESS OF MANUFACTURING ILLUMINATING-GAS.

Specification forming part of Letters Patent No. 38,438, dated May 5, 1863.

To all whom it may concern:

Be it known that I, S. LLOYD WIEGAND, of the city of Philadelphia, and State of Pennsylvania, have invented a new and Improved Process of Manufacturing Illuminating-Gas; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in transmitting the gases generated by the decomposition of steam by carbon heated to incandescence through coal or other hydrocarbons at a high temperature and conveying the vapors evolved by the hydrocarbon, with the gas before mentioned, into a retort at a yet higher temperature, and there decomposing them simultaneously with superheated steam and converting them into permanent gas possessing illuminating properties.

To enable others skilled in the art to use my invention, I will proceed to describe the mode of conducting this process.

Through a retort heated to a bright-red heat and filled with carbon, (oak-charcoal I have found to be one of the most eligible forms,) I pass a current of superheated steam, which is decomposed by the carbon, and the gaseous products I pass through a second retort containing bituminous coal or other hydrocarbon at

a temperature less than that requisite to convert the hydrocarbon vapors into permanent gas. From the second retort I pass the vapors thus generated through a third retort with superheated steam, and there simultaneously decompose both the hydrocarbon vapors and the steam at a temperature higher than that of the second retort, and thus convert the whole into illuminating-gas.

Herein I do not claim the use of the gaseous products resulting from the decomposition of steam by means of incandescent carbon as a means of separating the vapors of oil and other hydrocarbons from coal and similar substances. Neither do I claim the simultaneous decomposition of hydrocarbon vapors and superheated steam for the purpose of generating illuminating-gas; but

What I do claim as my invention, and desire to secure as such by Letters Patent, is—

The combination of the processes disclaimed when combined in the manner, or in any equivalent manner, as set forth and described.

S. LLOYD WIEGAND.

Witnesses:

JOHN WHITE,
DENNIS MEAD.