

UNITED STATES PATENT OFFICE.

S. LLOYD WIEGAND, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DISTILLING OILS AND PARAFFINE FROM PEAT AND OTHER SUBSTANCES.

Specification forming part of Letters Patent No. 39,607, dated August 18, 1863.

To all whom it may concern:

Be it known that I, S. LLOYD WIEGAND, of the city of Philadelphia, and of the State of Pennsylvania, have invented a new and useful Improvement in the Process of Obtaining Oils from Peat and other Bituminous Substances; and I do hereby declare that the following is a full and exact description thereof.

The nature of this invention consists in the use or employment of the gaseous products resulting from the decomposition of steam by carbon heated to incandescence circulating through the bituminous material in a retort which is at a temperature lower than would otherwise be requisite to distill the hydrocarbon vapors from such material.

To enable others skilled in the art to use this process, I will now proceed to describe it more fully.

I fill a retort heated to bright redness with carbon, (oak-charcoal I have found best for the purpose, but other forms of carbon will answer.) Through this retort I pass a small quantity of steam with a continuous flow and connect the outlet of this retort with the inlet of a second retort, which contains the peat or bituminous coal, and is heated nearly but not quite enough to vaporize the oils contained therein. The gases generated in the first retort pass through the bituminous matter in the second retort, and, escaping from the outlet of the sec-

ond retort, deposit, upon cooling in a condenser of any known form, the oils and paraffine which have been cooled from the contents of the second retort. In conducting this operation, should an excess of steam pass through the first retort undecomposed it is condensed after passing through the second retort, but does not materially impair the success of the process. By distilling in this manner a larger yield of hydrocarbon oils and paraffine is obtained than by the use of heat alone applied to the second retort.

I am aware currents of air deoxidized by the combustion, therein of carbon have been applied to facilitate the separation of hydrocarbon oils from coal and peat. This I distinctly disclaim, and I further disclaim the use of superheated steam for the same purpose, the use of which is old and well known; but

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

The use of the products of the decomposition of steam by means of incandescent carbon in the separation of hydrocarbon oils and paraffine from peat or coal or other bituminous substances, whether used by themselves or in combination with superheated steam.

S. LLOYD WIEGAND.

Witnesses:

EDM. F. BROWN,
E. W. W. GRIFFIN.