

UNITED STATES PATENT OFFICE.

SILAS C. SALISBURY, OF NEW YORK, N. Y.

IMPROVEMENT IN HYDROCARBON COMPOUNDS FOR FUEL.

Specification forming part of Letters Patent No. **203,199**, dated April 30, 1878; application filed March 8, 1878.

To all whom it may concern:

Be it known that I, SILAS C. SALISBURY, of New York, in the county and State of New York, have invented a new and useful Hydrocarbon Compound (Liquid or Semi-Liquid) for Fuel or the Manufacture of Illuminating-Gas; and that the following is a full and exact description of the same.

It is well known that the tar refuse from the destructive distillation of coal in the manufacture of gas is rich in hydrocarbon; but all efforts to utilize this product as a fuel on a commercial scale have heretofore failed.

I have discovered that a mixture of coal-tar with the tar-residuum of the oil-distillation of crude petroleum, shale, rosin, or pine, &c., constitutes a very valuable and cheap liquid or semi-liquid compound capable of conversion into gas, with suitable retorts and apparatus for spraying said liquid into the same at a very small cost, suitable for heating or illuminating purposes.

In this specification I propose only to describe the fuel compound and its advantages, without reference to the special apparatus necessary to its utilization. Devices for which I have heretofore applied for Letters Patent, as well as devices for which I propose hereafter to apply for Letters Patent, are designed for and capable of spraying liquid hydrocarbon into retorts and converting the same into gas; and as many variations of such apparatus are possible, I prefer to exclude herefrom all claim except for the material compound, as set forth.

The compound consists of coal-tar, two parts; tar of petroleum, or shale, or rosin, &c., one part. The proportions given above are approximations, as it is not essential that

those proportions should be preserved exactly, though the quantities noted are believed to be most advantageous. When thoroughly mixed, this compound is sufficiently fluid to be blown or sprayed into proper retorts and converted into gas, which may be consumed in furnaces while in a crude state, or, after proper purification, as illuminating-gas.

I am aware that coal-tar products, and mixtures of such products with other hydrocarbon liquids, have been incorporated with porous solid matters, such as peat, coal-slack, &c., to produce solid artificial fuel capable of being distilled to produce gas and coke-residuum; but this is not my invention, as it is not incorporated with any solid substances, nor does it leave any solid residuum after combustion or distillation.

As a fuel its advantages over coal are very important. Ten pounds of this compound are effectively equal to eighty pounds of coal, because complete combustion is obtained, and only one-eighth the space is occupied. It also renders unnecessary most of the labor required to handle the coal and ashes. These advantages are of especial importance on ship-board, where economy of stowage is a matter of great moment.

Having described my invention, what I claim as new is—

A liquid or semi-liquid compound consisting of a mixture of coal-tar and the tar-residuum from the distillation of petroleum, shale, or rosin, in proportions substantially as set forth.

SILAS C. SALISBURY.

Witnesses:

HULBERT PECK,
R. D. O. SMITH.