

UNITED STATES PATENT OFFICE.

JOSHUA KIDD, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF ILLUMINATING-GAS FROM COAL-TAR.

Specification forming part of Letters Patent No. 124,441, dated March 12, 1872.

To all whom it may concern:

Be it known that I, JOSHUA KIDD, of the city, county, and State of New York, have invented a new and Improved Process for Utilizing Coal-Tar or other heavy oils for the purposes of making a fixed illuminating-gas; and I do hereby declare that the following is a full, clear, and exact description of the operation of the same.

My present improvements consist in utilizing coal-tar or other heavy oil containing an excess of carbon, for the purpose of making a fixed gas. There has been no practical or convenient method hitherto known or adopted for using coal-tar produced in gas-works for the purpose of making a fixed gas. When coal-tar or other heavy-oil vapor is passed through a red-hot retort, great destructive decomposition takes place in consequence of the small proportion of hydrogen to the carbon contained in it. On this account gas companies find it preferable to dispose of their tar. When tar-vapor, or the vapor from distilled coal or shale is mixed with the vapor from light petroleum naphtha and combined with superheated steam or atmospheric air, either separately or with a given quantity of the steam and air combined, very little, if any, deposit of carbon will be found in the decomposing-retort.

In carrying out my new process, I first vaporize the tar or other heavy oils; also the petroleum naphtha, by projecting the same sparingly

into a retort heated below a decomposing heat; or they may be vaporized in separate stills or boilers. I then mix, in any convenient way, a given amount of heated atmospheric air or steam, either combined or separately, with the hydrocarbon-vapors, and force the same, thus mixed, through a retort heated to a decomposing heat.

The use of superheated steam in the manufacture of illuminating-gas is well known, but hitherto it has only been forced into the decomposing-retort and made to mingle with the vapors generated from coal or oil. This method forms no part of my invention. I make no claim to any particular form of apparatus for carrying out my invention, as any well-known arrangement of apparatus may be used; but

I claim as new—

Combining the vapors from coal-tar, or the vapors from distilled coal, or from heavy oils, with the vapor from petroleum naphtha, and then mixing with said vapors a given quantity of superheated steam or heated air, or both combined, and afterward forcing the mixture through a red-hot retort, for the purposes of making a fixed illuminating-gas.

JOSHUA KIDD.

Witnesses:

JAMES KIDD,
JOHN STEWART.