

Mechanics' Mag., vol. XXXII, p. 172; Inventor's Advocate, vol. I, p. 11.

VAL MARINO, JOHN ALEXANDER PHILLIP DE. 1839: No. 8126.

A mode of decomposing tar, oils and other fatty matters, and also water. Uses three retorts, filled with coke; admits water into the first retort; the steam and gases pass into the second; and thence to the third, which is the retort supplied with tar, &c,

Rep. of Arts, vol. XIV, p. 65; London Journal, vol. XVIII, p. 99; Inventors' Advocate, vol. II, p. 34.

CHUCKSHANKS, ALEXANDER. 1839: No. 8141.

Uses superheated steam (red hot?); passes it into the retort; distills tar from coal.

CONSTABLE, JOHN. 1845: No. 10690.

Employs air and steam (at 600 fahr.) to produce gas with anthracite. Enriches the oxide of carbon with oil of tar.

Rep. of Arts, vol. VII, p. 227, (enlarged series); London Journal, (N.) vol. XXIX, (conjoined series) p. 129.

Mechanics' Mag., vol. XLIV, p. 109.

POLLARD, WILLIAM. 1845: No. 10733.

Employs highly heated steam in conjunction with air and solid fuel for making the gas from.

New. London Journal, vol. XXVIII, c. s. p. 149.

LOWE, GEORGE. 1846: No. 11405.

Introduces highly heated steam into retorts when making gas from coal or other matters.

Mechanics' Mag., vol. XLVI, p. 579; Patent Journal, vol. II, p. 790.

ROLL, ALEXANDER ANGUS. 1848: No. 12251.

Employs steam in the manufacture of gas. Charges the same retort with coal and coke, and introduces steam at the end opposite to the education pipe.

Rep. of Arts, vol. XIII, p. 233; London Journal (New.) vol. XXXIV, (conjoined series), p. 196; Mechanics' Magazine, vol. L, p. 212; Artizan, vol. VII, p. 183, vol. IX, pp. 77, 124, 194; Patent Journal, vol. VI, p. 216; Eng. and Arch. Journal, vol. XII, p. 150.

GILLARD, JOSEPH PIERRE. 1849: No. 12858.

Recommends steam required in gas making to be distributed over the surface of the coal in the retort. Makes hydrogen from any hydro-carburets.

London Journal, vol. XXXVII, p. 236; Mechanics' Mag., vol. LIII, p. 437; Patent Journal, vol. IX, p. 106.

WEBSTER, JAMES. 1850: No. 12967.

Used heated steam with rosin.

Rep. of Arts, vol. XVI, p. 226; Mechanics' Mag., vol. LIII, p. 139; Pat. Journal, vol. IX, p. 238.

BARLOW, THOMAS GREAVES, and GORE, SAMUEL. 1851: No. 13593.

Uses steam or water, coke and coal. Uses one retort with the required divisions, or three retorts working together. Superheated steam, if necessary, is introduced over incandescent coke, then over coal which is being converted into gas. Uses hydrocarbons by injection, or otherwise, into a retort containing incandescent coke.

Mechanics' Mag., vol. LV, p. 352; Patent Journal, vol. XII, pp. 73 and 96.

HILLS, FRANK CLARKE. 1852: No. 13912.

1. Uses steam and the vapours of hydrocarbons in highly heated retorts filled with coke.

2. Decomposed steam, or steam and hydrocarbon vapour by heated coke, heating the coke to a great heat by air—introduces air and steam alternately.

3. Decomposes tar or other hydrocarbon alone or with steam, or with the gases formed by the decomposition of steam.

4. Passes tarry vapour in ordinary gas, with or without the use of steam, through red hot carbon.

Mechanics' Mag., vol. LVII, p. 97.

ISOARD, MATHIEN FRANÇOIS. 1857: Nov. 2, No. 2782.

He carburets superheated steam, by causing the superheated steam to traverse hydrocarburets of any kind in a carburetting apparatus. He uses for gas lighting hydro-carburets.

HOLMES, WILLIAM CARTWRIGHT. 1855: Jan. 20th No. 1405.

He distills gas-producing substances by means of superheated steam, which passes to a retort containing the substance to be distilled which it vaporizes, and thence passes off with the steam to and through a second retort or vessel (heated), where it is decomposed into inflammable gas. Steam is also here decomposed.

HOLMES, WILLIAM CARTWRIGHT, and WILLIAM HOLLINGSHEAD. 1858: Feb. 2, No. 187.

Improvement on the foregoing. Conduct the vapours or gases thus produced or obtained from the retort or vessel to another retort or vessel where they are still further subjected to superheated steam, the formation of tar being prevented.

GERNER, HENRY. 1858: No. 27, 2705.

Uses a retort with two pipes in the form of coils containing perforations; one supplied with a hydrocarbon the other with water. The coils are surrounded with water.

IBBETSON, JOHN HOLT. 1824: No. 4954.

Admits steam into the decomposing chamber when in operation, among the ignited coal or coke, alone or mixed with tar or oil.