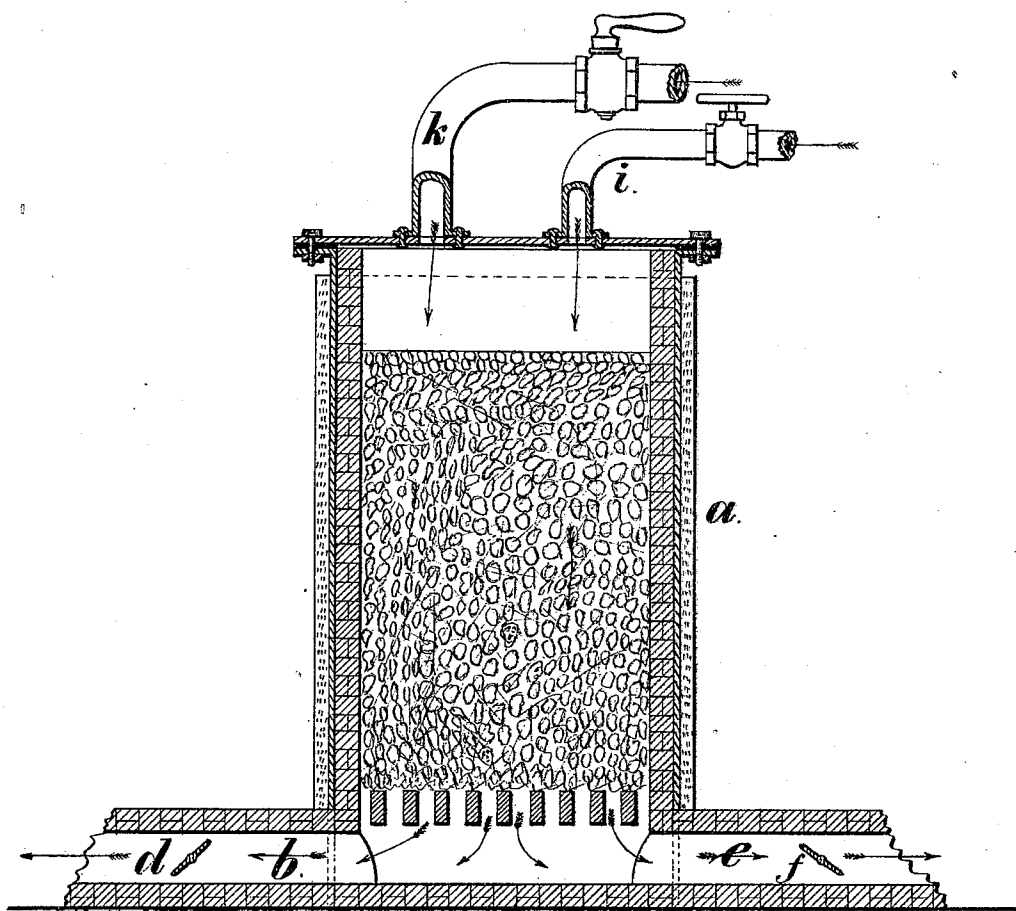


M. H. STRONG.
PROCESS FOR MANUFACTURING GAS.

No. 179,369.

Patented June 27, 1876.



Witnesses

Charles Smith
Harold Linnell

Inventor

Myron H. Strong
per L. W. Perrell
Att'y.

UNITED STATES PATENT OFFICE.

MYRON H. STRONG, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PROCESSES FOR MANUFACTURING GAS.

Specification forming part of Letters Patent No. **179,369**, dated June 27, 1876; application filed November 22, 1875.

To all whom it may concern:

Be it known that I, MYRON H. STRONG, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in the Manufacture of Gas, of which the following is a specification:

An illuminating-gas has been made by passing liquid hydrocarbon and steam through a mass of incandescent coal, and then reheating the resulting vapors. This necessitates the fresh supply from time to time of coal, and renders the operation irregular and difficult to manage, while the resulting gases contain impurities.

My invention is for the liberation of hydrogen gas in a nearly pure state, so that the same is adapted to being mixed with olefiant or other gas, to dilute the same sufficiently to form an illuminating-gas, or for any other object.

In the drawing, I have represented an apparatus adapted to the manufacture of gas by my process.

The retort *a* is preferably of iron, lined with fire-brick. At the bottom is a flue-opening, *b*, leading to a chimney, and there is a gate or damper, *d*, in this flue *b*. The other flue or pipe *e* leads to a gas-holder, and in this pipe *e* there is also a gate or damper, *f*.

The liquid hydrocarbon is supplied by a pipe and cock, *i*, and the pipe *k* serves to convey a blast of air from a blower into this retort.

The retort *a* is filled with pieces of broken fire-brick, or similar porous material, adapted to withstand heat.

The operation is as follows: A regulated amount of liquid hydrocarbon is allowed to flow into the retort. It is ignited, and the blast by the pipe *k* admitted. This produces an intense heat, that makes the pieces of brick within the retort a bright red or white heat, the products of combustion passing off by the flue *b* and chimney to the open air.

The damper *d* is now closed and the damper *f* is opened, and the air-supply shut off, and liquid hydrocarbon is allowed to pass into the retort in drops or spray, or otherwise upon the top of the highly-heated mass of

brick. Rapid decomposition of the oil now takes place, the hydrogen of which, being liberated, and passing through the retort, leaves the carbon in small particles in and upon the pieces of fire-brick. The higher the temperature the more rapid will be the separation, and if the heat decreases too much, in consequence of a continuation of the supply of oil, the result would eventually be light carbureted hydrogen, but before the flow of oil has continued long enough to produce this result, the supply of oil is shut off, and the valve to the gas-holder closed, and the valve to the chimney opened, and the blast of air is again admitted. This consumes the free carbon deposited upon the pieces of brick, and in so doing produces an intense heat, so as to prepare the bricks for the next admission of oil after the carbon has been burnt off. The retort is ready for the operations to be repeated, and by proper observation it will be ascertained how long to run the retort with oil to produce free hydrogen, and then how long to employ the air-blast to consume the free carbon and reheat the retort.

The hydrogen produced as aforesaid may be carbureted in any of the well-known methods, so as to produce an illuminating-gas.

I claim as my invention—

The process herein described of alternately producing gas and heating the retort by first admitting petroleum or other hydrocarbon into a retort among pieces of fire-brick or other similar material in a highly-heated condition, and conveying the gas away to a receiver, and subsequently reheating the retort (after the the supply of hydrocarbon has been stopped) by admitting atmospheric air or oxygen to consume the carbon deposited in the retort, so as to obtain the temperature necessary for then restarting the gas-making operation, substantially as set forth.

Signed by me this 20th day of November, A. D. 1875.

MYRON H. STRONG.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.