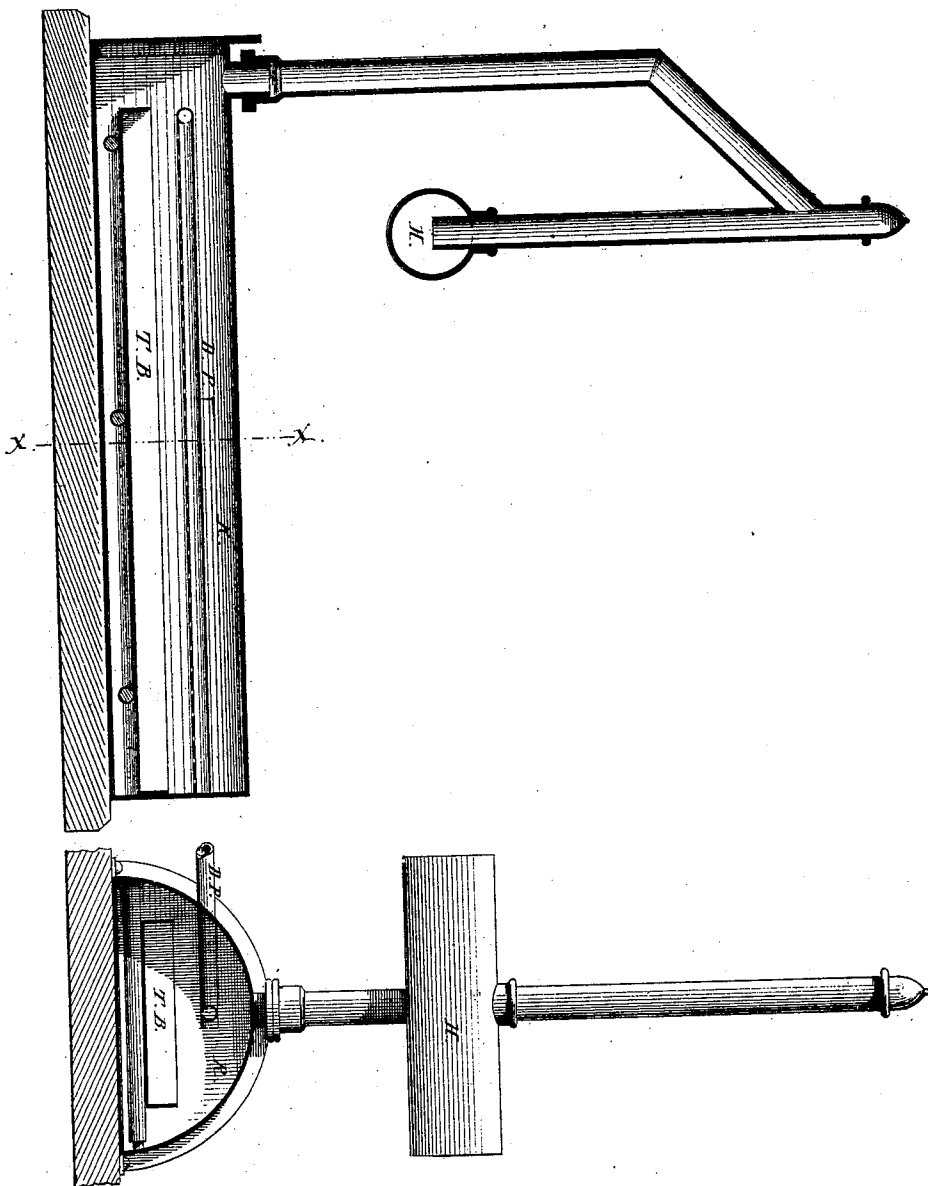


*J. H. Smith,*

*Reinvent.*

*No. 109848.*

*Patented Dec. 6. 1870.*



*Witnesses;*  
*A. C. Bradley*  
*Chas. C. Wilson*

*Inventor;*  
*James H. Smith*  
*By his Attorney*  
*Chas. F. Mansburt*

# United States Patent Office.

JAMES H. SMITH, OF NEWARK, OHIO.

Letters Patent No. 109,848, dated December 6, 1870.

## IMPROVEMENT IN APPARATUS FOR THE MANUFACTURE OF GAS FROM HYDROCARBONS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, JAMES H. SMITH, of Newark, in the county of Licking and State of Ohio, have invented an Improvement in Apparatus for Making Gas from Liquid Hydrocarbons; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a longitudinal vertical central section of the apparatus, and

Figure 2 is a transverse vertical section of the same on line *x x* of fig. 1.

The same part is marked by the same letter of reference in both the figures.

The nature of my invention consists in supplying the liquid hydrocarbons to the retort by means of a perforated distributing-pipe, at the rate, as nearly as possible, at which the retort has capacity to receive and convert them into permanent gas, and in the use, in conjunction with the distributing-pipe, of a removable tar-box, to receive the residuum, or that portion of the injected material which is not converted into gas, the object being to obtain the maximum quantity of gas from the material used, and to provide for the removal of the solid carbon, which would otherwise accumulate in and clog the retort.

In the accompanying drawing—

R marks an ordinary gas-retort, connected, by stand and dip-pipes, with the hydraulic main H.

Into this retort I introduce the perforated distributing-pipe D P, through which, by means of a pump, I inject the gas-generating liquid as fast as the retort is capable of converting it into fixed gas.

The rate at which the liquids should be supplied will depend upon their character and upon the temperature of the retort, and must be determined by the experience and judgment of the gas-engineer.

Underneath the distributing-pipe, and supported on wheels or rollers, I place the tar-box T B, into which will drop the residuum or unconverted portion of the liquid materials, which can thus be removed from the retort at pleasure.

I claim—

In an apparatus for generating gas from liquid hydrocarbons, the combination of the retort R, distributing-pipe D P, and tar box T B, all arranged and operating substantially in the manner and for the purpose specified.

The above specification of my said invention signed and witnessed at Newark this 10th day of October, A. D. 1870.

Witnesses:

JAS. H. SMITH.

LUTHER J. JOHNSON,  
ALEX. C. LEWIN.