

UNITED STATES PATENT OFFICE.

E. A. POND, OF RUTLAND, VERMONT.

IMPROVEMENT IN THE MANUFACTURE OF ILLUMINATING-GAS.

Specification forming part of Letters Patent No. 50,385, dated October 10, 1865.

To all whom it may concern:

Be it known that I, ERASMUS ALLINGTON POND, of Rutland, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Illuminating-Gas; and I hereby declare that the following is a full, clear, and exact description of the same.

The refining or distillation of coal-oil or petroleum in the United States yields immense quantities of benzine and other such secondary products of distillation which are of a highly volatile and inflammable nature, and which when mixed with atmospheric air produces a cheap gas of great illuminating power and brilliancy. Experiments with this gas have led me to the discovery that if mixed with ordinary illuminating-gas—that is, the carbureted hydrogen produced at gas-works—an illuminating-gas may be obtained, which, while it can be produced at less expense than either atmospheric air charged with the vapor of hydrocarbon fluid or carbureted hydrogen, possesses an illuminating and heating power greater than either.

The manner in which this invention may be carried into effect depends upon circumstances. Thus, if for instance, a city, or town, or village were to be supplied with gas the proper mode of introducing my invention would be to establish at the gas-works, and in connection with the system of manufacturing carbureted-hydrogen gas, a gas-generator—that is to say, one or more apparatuses which would charge atmospheric air with the vapor of hydrocarbon fluid in such quantities as is intended to be mixed with the ordinary gas. The two kinds of gases would be received under a receiver or gasometer, whence they are discharged mixed into the main and branch pipes.

Another method of mixing the two gases would be to connect with the ordinary gas-pipes at any point which may be deemed convenient a gas-machine, charging atmospheric air with hydrocarbon vapor. By this system my invention may be used independently of established gas companies. The gas-machine, for instance, may be connected with the gas-pipes at a point beyond the gas-meter. Again, the brilliancy of the flame of ordinary gas-burners may be heightened by connecting with the said burners an auxiliary burner and tube emanating from a portable or stationary gas-machine. The two gases would mix and combine at the burner.

Careful experiments have demonstrated that a notable economy may be effected by the adoption of this my invention. Either gas may be manufactured according to any known or suitable process; and I do not wish to be understood as limiting myself to any particular mode of making or of combining the two gases; but

What I claim is—

1. A new illuminating-gas, the same consisting of carbureted hydrogen gas mixed or combined with atmospheric air charged with the vapor of hydrocarbon fluid.

2. The manner herein described of mixing the two gases at the works generating the two, or in the tube supplying the burner, or at the burner, substantially as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

E. A. POND.

Witnesses:

A. POLLOK,
EDM. F. BROWN.