um, Water and Charcoal or Coke, all of them accessible and cheap, and from the extraordinary abundance of Petroleum in Canada and the United States, this body is likely to remain so.

The qualities which we confidently expect will secure for Petroleum Gas your favour, are—

1st. *Its extraordinary illuminating power.*
2nd. *The mildness and softness of its light.*
3rd. *Its cheapness.*
4th. *The ease with which a supply can always be controlled for illuminating, heating, or cooking purposes.*

A ONE foot burner gives a flame as large as a FOUR foot burner of the common coal gas supplied to cities and towns. The comparative smallness of the flame greatly diminishes the heat, which is often found so oppressive in large rooms lighted with coal gas. The absence of the flickering, which is often disadvantageous and disagreeable in common coal gas, is another quality which it can be made to possess. Until the recent adoption by the public of coal and petroleum oil lamps, coal gas was considered to be by far the cheapest illuminator known. Since the discovery of a process for manufacturing gas from petroleum, to burn without smoke or smell from ordinary gas burners when properly made, coal gas has been far surpassed in cheapness by petroleum gas, and a milder, steadier, yet stronger light secured.

Its cheapness may be inferred fron the following brief statement:—

Five gallons of crude petroleum distilled and converted into gas according to our process, make one thousand cubic feet of gas. But one cubic foot of the petroleum gas is equal in illuminating power to *four* cubic feet of common coal gas, so that in effect five gallons of petroleum are capable of producing an amount of light represented by 4,000 cubic feet of coal gas, or from $12 to $16 in money, according to the present ratio of gas charges in Canada. Where gas is required to be manufactured on a large scale, it is desirable to remember that petroleum and water are easily handled, and can by their own flow supply the retorts continuously and without waste, thus doing away with the unceasing labour of continually replenishing the retorts with coal, and the expense entailed in the maintenance of numerous hands.

With respect to public buildings, one man giving three hours' attention per day to the manufacture of petroleum gas, can produce by our patent process, enough gas to supply 100 burners with full pressure for ten hours, at a cost of material not exceeding ONE DOLLAR, fuel for distillation included, or at from one-fourth to one-third the cost usually charged by the gas companies now existing in Canada.

The substitution of petroleum for coal in gas works now in operation, can be effected with very little additional expense.

In public and private buildings where it is desirable to introduce petroleum gas, a detached room would be required, according to the capacity of the works. The pipes and burners now used by gas companies are in all respects adapted to the petroleum gas, with this difference, that where a FOUR foot burner (the one in common use) for coal gas is employed, a ONE foot burner for petroleum gas would have to be substituted. Petroleum gas burning through a FOUR foot coal gas burner is a magnificent illuminator, and one which would not often be used for ordinary purposes.

Any communications relative to the introduction of the Patented Petroleum Gas into public buildings or private houses, may now be addressed to James E. Thompson, 109 King Street West, Toronto; and if the applicant state the number of burners required to be supplied, an estimate of the size and cost of the apparatus will be returned without delay.

We are Sir,
Your obedient servants,
JAS. E. THOMSON,
Hydraulic & Gas Engineer.
HENRY YOULE HIND, M.A.,
Prof. of Chem. & Geol. Trin. Coll., Toronto.

CAUTION TO THE PUBLIC.

The public are respectfully informed that Messrs. James E. Thompson and H. Y. Hind, have secured patents for—

First. An *opparatus* for the manufacture of Illuminating Gas from Crude Petroleum or Rock Oil.

Second. A *process* for the manufacture of Illuminating Gas from Crude Petroleum or Rock Oil.

And they claim—

1st. "The invention of a portable or stationary iron or clay Compound Retort for the simultaneous production of gases from petroleum and water, by means of which retort a useful, rich, and economical illuminating gas can be obtained."

2nd. "The simultaneous production within the same Compound Retort, of gases from crude petroleum and water, or in a different and separate retort, if the gases are subsequently brought together at a red heat, to effect the requisite combinations; also the purification and deodorizing of the gases by means of dilute hydrochloric acid, or other suitable acids, so as to fit the gases for combustion under ordinary circumstances."

The Patentees will take legal proceedings against parties infringing their patented rights.

Charcoal as a Disinfectant.

Dry charcoal, in the presence of atmospheric air, is a powerful means of destroying the mephitic gases and vapours of sewers and house drains. Charcoal filters may be used with efficacy in the course of the air channels from the drains and closets of houses, as well as in the ventilation of the public sewers; in applying the charcoal, those contrivances should be used which offer the least resistance to the free passage of the air; the situation of the filters is best when the charcoal is protected from wet and from dirt, and is easily accessible; and from the ascertained efficacy of charcoal in destroying the dangerous emanations from sewers, the system may be generally applied with great advantage.

There were two varieties of mechanical arrangements adopted for applying the charcoal in the late experiments instituted in London (England); one was that patented by Messrs. Bean and Burge, which consisted of one large seive with compartments, the other was an adaptation of our own, and consisted of a series of trays for holding the charcoal, and were so constructed as to be capable of being readily removed from the frames into which they fitted.

Wood charcoal was employed, broken into pieces of the size of a filbert. It was packed closely, but without compression, upon the various trays; and each tray held about $1\frac{1}{2}$ lbs. of charcoal, making altogether $6\frac{1}{2}$ lbs., distributed over the six trays of each air filter.

The charcoal appears to lose much of its power when saturated with water; and as the position in