

The manufacture of gas by the distillation of coal has grown to such importance, until at the present time it has become one of the largest manufactures of the country, the annual consumption of coal for gas making in the United Kingdom is about 14,500,000 tons annually, and the capital embarked may be set down at about £70,000,000 (\$350,000,000) from the sale of gas, and the receipts for the sale of gas and residuals about £20,000,000 (\$100,000,000). In the United States, the total value of raw material is about \$37,000,000, and the coal for carbonizing, about 4,500,000 tons.

Gas making, or the process of coal distillation, is called carbonization, and the operations of gas making are the carbonization of the coal in retorts, the separation of tar and ammoniacal liquor in the various parts of the plant. There is also the collection and storage of coke, tar, ammoniacal liquor, the measurement and storage of gas in the holder, and lastly, the distribution of the gas by means of mains and pipes to the consumers. By means of the drawing, the various apparatus is shown through which the gas has to pass ere it is delivered into the distributing mains, viz:

- { Setting of Retorts.
- { Hydraulic Main.
- { Foul Main.
- Condensers.
- Exhauster.
- Washers.
- Washer Scrubbers.
- Purifiers.
- Station Meter.
- Gas Holder.
- Governor.

One feature of gas making which would strike the uninitiated is, that it is a hand-to-mouth business; a twenty-four hours' supply when the consumption is at its maximum is all the gas that is kept ready made in the generality of gas works.

In the past before the gas cooking stove was in vogue, gas works had their periods of inactivity or comparatively so. In winter the demand for artificial light was greatest, and the gas works had to put forth all its energies to meet the demands made upon it. Four times as much gas was burned as in mid-summer. Summer, when little gas was used, was the time for structural alterations, and repairs of all kinds to the plant. Now, through the universal use of the gas cooking stove, incandescent lighting, etc., there is very little difference in the make of gas the year round, and the peak loads have assumed more of a straight line. The raw material of the gas is coal,