

| KIND OF GAS. | Composition in 100 per volume. | | | | Calorific Power in cal. (15-gal) per met. cub. |
|-------------------------|--------------------------------|-----------------|----------------|----------|--|
| | Hydrogen | Carbon monoxide | Carbon dioxide | Nitrogen | |
| Siemens Gas | 25.7 | 4.5 | 69.8 | 0.0 | 1773 |
| Dawson Gas (anthracite) | 18.1 | 26.8 | 7.2 | 47.9 | 1316 |
| Dawson Gas (coal) | 21.9 | 15.9 | 11.4 | 50.1 | 1018 |
| Water Gas | 49.2 | 43.8 | 2.7 | 4.0 | 2881 |
| Coal Gas (average) | 49.6 | 9.0 | 1.6 | 3.8 | 5230 |
| Riche Gas | 44.2 | 22.0 | 21.3 | 12.7 | 3923 |

From the above table it may be seen that what was formerly the poorest of all gases, viz., wood gas, there can be made to-day a

rich, powerful gas which of all industrial gases is that which most nearly approaches that of coal gas, also the high calorific power of the gas Riche, it being higher than even that of water gas, also the complete absence of nitrogen in the gas.

The gasogene Riche, or as it is more usually called, generator, is composed of a kiln of ordinary red and fire-clay bricks, fortified by means of the usual iron armature; inside of this masonry are the beds for the retorts and which are heated from the fire-boxes at the end of kiln by any combustible matter, wood, etc., etc., and said fire-boxes are so arranged that the heating of the kiln can be shut off or started at a moment's notice by means of dampers, etc., etc., and although,

for the sake of economy, there is only one fire-box to each kiln, each retort is so constructed that it can be taken out and replaced without hindering the ordinary march of the generator, and the changing of an old retort does not require any longer than, at the most, one hour.

A general idea of the gasogene Riche and its mode of working may be formed from the rough vertical cut of the retort and masonry.

The firing of the retorts is regulated by a damper which is placed at R, and is under the control of the gasman. The hot gases coming from the fire-box F pass through H and then play around the retort in its bed J1 and J2, and then through R away to the chimney.

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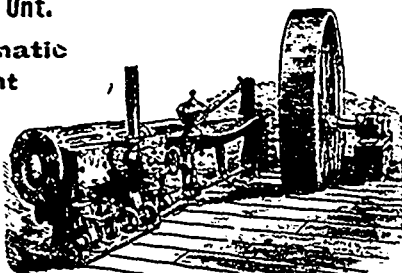
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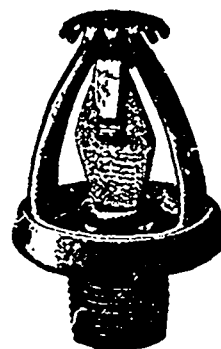
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