

Improved Method of Gas Production.

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U^P to a comparatively recent date all coal gas was made in horizontal retorts, involving an immense amount of strenuous labour in charging the retorts with coal, raking out the coke and hosing, shovelling and carting same. Then came the system of inclined retorts, which rapidly grew in favour in Europe, owing to the enormous saving in labour and operating expenses. This spurred on invention, and machine stoked retorts became the successful rivals of the inclined system.

Last of ail was discovered the fact that all former ideas as to what goes on inside of a gas retort were wrong to an unthought of degree, and it has been fully tried out and proven that the gasifying of coal in vertical retorts results in more gas (from the same coal) and of better quality, and also the production of better coke, better tar, twenty-five per cent. more ammonia (the most valuable of by-products) and the utter elimination of napthalene (the bane of all gas companies), besides effecting such economy that even water gas now takes second place.

The reason why the vertical retort is such a step in advance of the horizontal and inclined retorts is that in the latter all the gas generated, and also all the condensable tar and other vapours must travel a considerable distance in contact with the highly super-heated roof of the retort, thus decomposing the vapours and forming chemical compounds, which is not the case when these gasses and vapours find their outlet through and up the center of the coke column in a vertical retort.

For the same reason the sulphur in the gas is reduced to a very small percentage, thereby greatly lowering the cost of purification.

The Inclined Vertical Retort has all the advantages of the straight vertical retort, and in addition makes it possible to not only to use low grade coal but also reduces the time required for distillation, owing to its primary and secondary action, whereby the coal is first treated in the inclined portion of the retort and is then, by automatic process, pushed into the vertical portion, taking up an entirely different position, and giving off its gasses freely and quickly.

The retorts are also automatically charged and dischargd without opening the doors, thus saving all gas produced, and by reason of the means provided for the heating of the retorts it is possible to manufacture good marketable coal gas from mine refuse.

The compound producer is particularly designed for the generation of illuminating and power gas from waste products such as low grade coal, mill refuse, lignite, peat, etc.

The producer comprises an enclosed chamber having a feed hopper through which the fuel or refuse is automatically delivered. This chamber is sub-divided, preferably into three relatively deep fur-