

shipbuilders, London, England, have just fitted a number of canal barges with suction producer plants and gas engines. The results of these have been so satisfactory that they are going to try them on coasting and merchant vessels. The British Admiralty is making experiments to find what are the limitations in using it for naval work.

The greatest advantage the producer has for marine work is that the amount of coal to be carried is greatly reduced.

In a country like Canada, where farming is done on a large scale, and where the power users are so scattered as to prohibit the building of central stations for power and light, the gas producer ought to have a large and increasing use. Messrs. Tangye Ltd., of Birmingham, England, have put on the market a portable gas engine and producer plant to meet the demand of the farmers.

About ten years ago attention was drawn to the fact that a large amount of power is available in gas which is usually thrown away from blast furnaces. It had been stated on good authority that 468 H.P. may be developed per ton of iron produced per hour. In the United States of America alone there were produced in 1905 23,000,000 tons of pig iron. This is equivalent to an available power of 1,225,000 H.P.

The chief difficulty to be overcome in the use of this blast furnace gas in a gas engine is that connected with the removal of the large quantities of dust which it contains. Another difficulty sometimes met in a small plant, namely, that the gas is very variable in quality, is overcome in large plants by mixing the gas obtained from several furnaces together. However, the trouble due to this is not very great in a well-designed plant. The gas, which is very hot when it leaves the furnace, is usually cooled in the process of extracting the dust.

The quantity of dust in the gas varies greatly with the kind of ore and coal used. For instance, the Cockerill Co., Belgium, had a 200 H.P. gas engine running at their works in Seraing for three years without any special provision being made for the elimination of the dust contained in the gas. During all that time the engine never had to be cleaned on account of dust, although it was running night and day.

On the other hand, this same company, at their works in Differdingen, experienced trouble right from the start with some 600 H.P. engines which they installed. Investigation showed that the Differdingen gas contained four to five grammes of dust per cubic metre of gas, while the Seraing gas contained only from .25 g.m. to .5 gm.

Experience shows that furnaces using hematite ores give a gas containing very little dust, and what dust there is settles very easily, even in short lengths of pipe. Oolitic ores, on the other hand, give