

practically all the alkali manufacturers in Great Britain, with the exception of Brunner, Mond & Co. This syndicate is known as the United Alkali Company, Limited, and its head quarters are at Liverpool. It has a capital of nearly \$39,000,000. Its principal works are at St. Helens and Widnes, but it also has works at Newcastle, Briston, and Glasgow. It employs 6,000 persons at the St. Helens and Widnes works, and 3,500 on the Clyde and Tyne. The United Alkali Company until a short time ago produced nearly all its chemicals by the Leblanc process. In order to meet the competition of the ammonia-soda process, the United Alkali Company has been obliged to cut down wages, and reductions have been made in the wasteful escape of gases. Yet, in spite of the savings and improvements, there seems to be no doubt that the production of soda by the Leblanc process must continue to steadily decline. The amount of salt decomposed in England by the Leblanc process declined from 434,298 tons in 1894 to 360,929 tons in 1896, while the amount decomposed by the ammonia-soda process rose from 361,603 tons in 1894 to 431,577 tons in 1896. A short time ago, the United Alkali Company established a plant for carrying on the ammonia-soda process at Widnes and Fleetwood (Lancashire), and its output of ammonia-soda is now between 60,000 and 70,000 tons.

It has been the hope of the English chemical manufacturers to so reduce the cost of production by improvements as to enable them to compete with the American concerns. In order to have a share in the American home trade, the United Alkali Company is now erecting works at Bay City, Mich., and will operate under the name of the North American Chemical Company.

Perhaps the question of greatest interest in connection with this industry is the possibility of producing bleaching

powder and other chlorine products cheaper than they can now be produced by the Leblanc process.

It is at this point that the revolution in the chemical trade is making itself manifest.

In 1896, an address was delivered by Dr. Ludwig Mond, president of the chemical section of the British association, in which he gave a description of a new method, which, though elaborate, enabled the ammonia-soda process to compete not only in the production of carbonate of soda, but also in that of bleaching powder, with the Leblanc process. Dr. Mond went on to say that he had hesitated to extend the new method in connection with the ammonia-soda process as rapidly as he would otherwise have done, because of the possibilities involved in the processes lately developed for the production of chlorine by electrolysis.

The electrolytical method for the manufacture of chloride of potash, bleaching powder, and caustic soda for the decomposition of salt, instead of the employment of bi-sulphuric acid, has been in use for some time in Germany, and also to a small extent in the United States. It is claimed, that by the application of electricity, the chemicals can be produced more cheaply than by the old method. The electrolytical methods do certainly produce more direct results, but local experts say that it is yet too soon to definitely decide whether they are more economical than the old method, as there are so many considerations which time alone can solve, such as the wear and tear of machinery and the cost of replacement, which are expected to be serious items of expenditure. Where electricity can be produced by water-power, as in Norway and at Niagara and other places in the United States, the new process will have a better chance of success than in England, where it must be produced at great cost in the consumption of coal.

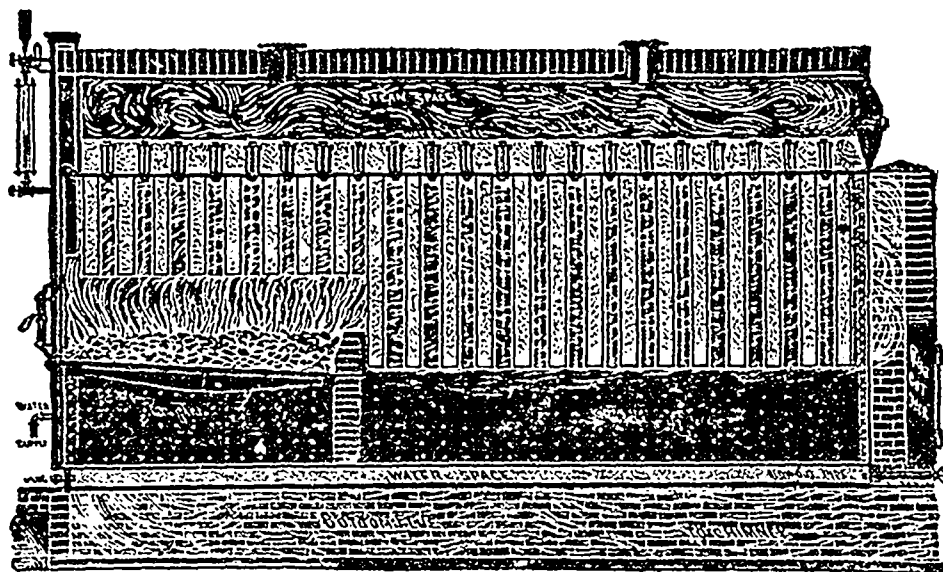
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