

*Private +
Confidential*

The attached memorandum No.1. gives a description of the principles of the Benson Steam Generator.

The history of the development of this invention is as follows:-

Benson has been studying the subject of Thermo Dynamics for a long time, as it is a field concerning which very little is known and where little advance has been made. He maintained that no advance had been made in Steam Engineering for 125 years.

His inventions, having been conceived, designs developed, and Patent protection obtained, ~~It was~~ ^{It} was first examined by an acknowledged authority, namely, Mr H. Riall Sankey, in July 1922, and he gave ~~the~~ ^a favourable report of the soundness from a technical standpoint of the whole project.

The ~~production~~ ^{reduction} to practical shape and the development of the invention reached such a state that in October 1923 the Siemens-Schuckert Werke, of Siemenstadt, Berlin, Germany, became finally interested in the proposition.

This firm is the largest Engineering firm in the World, with branches or subsidiary Companies under various names in all the leading countries of the World. They have enormous Works in Germany and a research staff of something like 1000 Engineers, Physicists, and Chemists. It was only after thorough study of the proposition and of the Patent situation, and after convincing themselves that they were unable to work around the Patent protection which the Inventor had obtained, that they decided to co-operate with the Inventor.

On October 11th 1923 they entered into an agreement with the Inventor, copy of which I have seen, by which they undertook for a 50% interest in the project, to :-

- (a) Place their entire resources behind the development and exploitation of this system of Steam Generation for all suitable purposes,
- (b) To prosecute and defend Patents and Patent Applications,
- (c) To turn their organisation on to the developments in co-operation with the Inventor, of such special apparatus and equipment required in connection with the various applications of Benson Steam, such as Improved Valves, Governing Gear, Turbines, and various methods of applying Benson Steam in the most useful manner.

A Benson boiler and plant ^{of} at first imperfect design and of experimental nature, were erected at the Works of the English Electrical Company, Rugby, and brought into successful operation in February 1924.

Based upon data obtained from the experimental plant at Rugby, the Siemens Schuckert Werke Co. of Berlin erected at Siemanstadt a demonstration plant, capacity 2,000 K.W., which was brought into successful operation about two months ago, and they are there demonstrating conclusively the successful and economical application of Benson Steam ^{to} Turbines for the production of Electrical Power, as an addition to render existing Power