

5. A method of determination of unsaturation of petroleum compounds, namely the estimation of olefines and acetylenes.

6. The discovery of suitable chemical compounds to influence detonation of petroleum in internal combustion engines.

NOTE.—In order to be commercially successful, these compounds should be non-toxic, both in themselves and in their resulting mixtures.

7. General catalysis of petroleum, and, in particular, catalytic reduction and oxidation.

8. The production of high-grade lubricating oils, suitable for naval turbines, from crude oils produced and refined within the British Empire.

NOTE.—Such oils should approximate as closely as possible in properties to those obtained from paraffin base crudes of the Pennsylvanian type.