

**Ignacy Mościcki – badacz praktycystyczny**

**Ignacy Mościcki – the positivistic investigator**

SUMMARY

The person of Ignacy Mościcki, a close collaborator of Józef Piłsudski's and President of Poland in the years 1926-1939, was almost totally ignored in communist Poland, and that in spite of the fact that his activity as a technologist and inventor was perhaps even more important than his political work.

After graduating from the Department of Chemical Technology of the Riga Polytechnic, Mościcki went on to study at the Finsbury Technical College and the Patent Library in London. He later moved to Switzerland, where he was a research assistant at the University in Fribourg. Working in the chemical laboratory of that university, Mościcki developed a method of obtaining nitric acid from air and water. In 1903, production of nitric acid using this method was launched in Switzerland. The method consisted in the oxidation of nitrogen due to electrical discharges generated in a high voltage furnace. For several years, most of Mościcki's work focused on attempts to improve the efficiency of the furnace, especially as in 1904, two Norwegians, Birkeland and Eyde, constructed a furnace for the combustion of nitrogen along similar lines. As a result of his research Mościcki was able to obtain patents in Switzerland, France, Germany, and Austria. One of the most interesting of his technological solutions was to place an alternate current arc in a magnetic field, causing the flame of the arc to spin. A furnace with a spinning flame was installed at nitric acid plant built under Mościcki's guidance at Chippis in Switzerland. During World War One the plant catered for all of the demand for nitric acid and nitrates in that country.

Mościcki became famous when he developed glass capacitors for high voltage systems. Mościcki sold the designs for the capacitors and the methodology of their production to a factory in Fribourg. These capacitors, known after the name of the manager of the factory as Giles valves, were used to protect electric-current transmission networks from atmospheric discharges, and were also employed in X-ray generating devices. Capacitors built on Mościcki design were also installed at the radiotélégraphie station of the Eiffel Tower in Paris.

In 1912 Mościcki returned to the Austrian-held part of Poland, and took the post of Professor of physical chemistry and electrochemistry at the Lwów Polytechnic. He took particular interest in the local mineral resources – natural gas and petroleum (crude oil). He developed a method of stabilizing gasoline. He also devised towers for the distillation of petroleum and for the fractional condensation of the vapours. Mościcki also solved the problem of utilizing crude roily oil – a byproduct in the output of crude oil. In all Mościcki received over forty patents and honorary doctorates of universities in Poland and abroad, including those granted by universities in Warszawa, Wilno, Paris, Fribourg and Dorpat.

**Analecta – Studia i Materiały z Dziejów Nauki**

**[Analecta – Studies and Materials on the History of Science]**

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