W. J. Kroll's Accomplishments

In order to appreciate the wide range of achievements of William Justin Kroll, it is interesting to chronologically list his investigations, developments, research findings and discoveries. Like all good researchers he used the knowledge gained through a previous investigation to implement and support the current and future research programs. This trend can be clearly seen in the following outline of Dr. Kroll's achievements.

The Early Years. From 1910 to 1917 Dr. Kroll studied at the Technischen Hochschule in Charlottenburg, Germany where he studied iron metallurgy and worked as an assistant to Professor W. Mathesius. He completed his doctoral thesis under the supervision of K. A. Hofman on the production of pure boron. He states that, "this influenced my future life deeply, for I never strayed far from the chosen field of preparative chemistry".

In 1917 he was employed by Metallgesellschaft in Frankfurt/Main and was sent to the lead refinery at Call/Eifel. There he developed a process for producing calcium-barium-lead bearing alloys by injecting sodium into a bath of lead containing barium and calcium chlorides. Figure 1 shows the schematic representation of his sodium injector from producing the calcium-lead alloy. He also worked on the development of a process to debismuthize lead and techniques to remove antimony and arsenic from tin alloys using aluminum.