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# The Birkinbine Engineering Firm Papers

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# Special Collections *Flyer*

## The Birkinbine Engineering Firm Papers

A warm Fall day, an elegant if dilapidated house in West Philadelphia, a steep and narrow staircase, and enough cartons to fill a seatless 15-passenger van to the point where there really was not room for another box. These are some of the things that “they don’t tell you about in library school.”

And to top it off, there were the sore muscles which resulted from loading and unloading such a mass of material. But the effort on that October day in 1994 was well worth the result: the addition to Le-high’s collection of material on the history of engineering of a treasure-trove for researchers and students of papers and printed documents about the practice of engineering by a Philadelphia firm from the mid-19th to the mid-20th century.

Since the guide to this collection is nearing completion, it seems appropriate to take the inaugural issue of the SPECIAL COLLECTIONS *Flyer* to say a few words about what is in the papers.

The firm got its start through Henry P.M. Birkinbine, the father of John. In 1844, the year John was born, H.P.M. was operating a forge and auger works near Reading, Pa. Later, his father served for 10 years as chief

engineer of the Philadelphia Water Department. The son got some of his early experience as an engineer in various water supply projects in and around Philadelphia, and the firm, perhaps because of this expertise, became involved in many water projects around the country in the late 19th century, as part of the drive for improved public sanitation.

The Birkinbine firm also specialized in mining engineering, both in the United States and Mexico. John Birkinbine was, in the 1870s, reportedly the first American to critically examine the iron deposits of the Cerro de Mercado in Durango. He was also one of the first engineers to suggest the practicability of making iron on the Great Lakes from coke made from Pennsylvania coal. He also experimented with the use of various fuels, from charcoal to coke, to smelt iron.

Birkinbine’s interest in manufacturing pig iron from charcoal, and his knowledge of hydraulics, contributed to a concern for the condition of forests in Pennsylvania. He was one of the founders of the Pennsylvania Forestry Association, a fact which provides a clear connection with Lehigh University. Henry Sturgis Drinker, president of Lehigh from 1905–1920 and both a lawyer and an engineer by training, had the same interest, and was also one of the founders of the Association.

Among John Birkinbine’s distinctions were two terms as president of the American Institute of Mining Engineers, founding member and secretary of the United States Association of Charcoal Iron Workers, and long-time editor of its journal, and service with the U.S. Geological Survey. In this capacity he was the Survey’s expert on iron ores.

These and other activities are reflected in the 21 linear



JOHN BIRKINBINE, 1844-1915

feet of papers and 15 letter books, as well as the several hundred books and pamphlets from the firm's library. These publications cluster around Birkinbine's main activities, hydrology and iron mining and metallurgy, but also include some rare railroad and other pamphlets from his travels to and in Mexico.

After John Birkinbine's death, the firm continued under his sons, but it seemed gradually to lose its energy. By the time World War II came along, the business was defunct. Two unmarried women in the family continued to live in the house in West Philadelphia, existing off an ever-dwindling inheritance.

Upon their deaths, it fell to a member of the family, John Birkinbine II, of Arizona, to dispose of the house and its contents. His son had considered attending Lehigh, and although he eventually decided to go elsewhere, the father had gotten a favorable impression of the school, and decided to offer the papers to us. We are

grateful for his generosity in making this gift.

The papers reflect the wide-ranging activities of the Birkinbine firm in its heyday. Several boxes, for example, contain reports and correspondence regarding activities in Mexico, particularly in the state of Oaxaca. Most of this activity dates from the 1890s through the teens of this century.

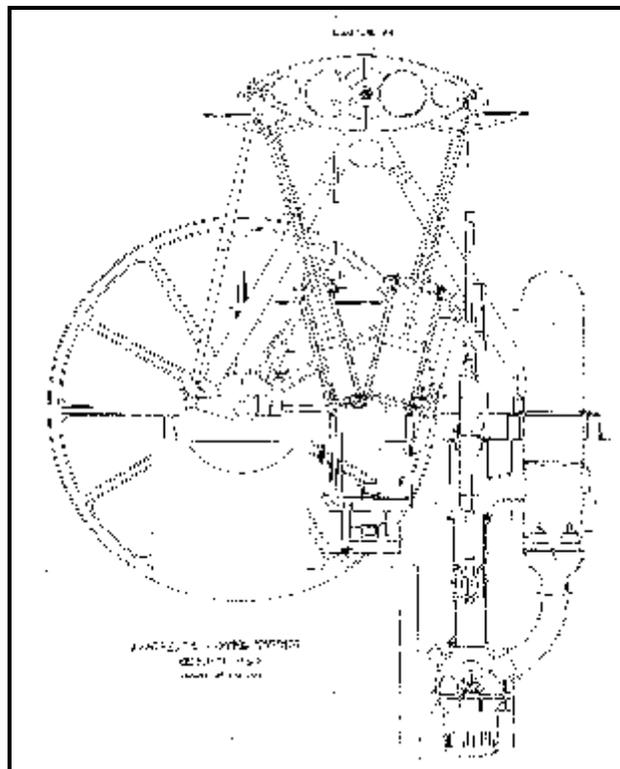
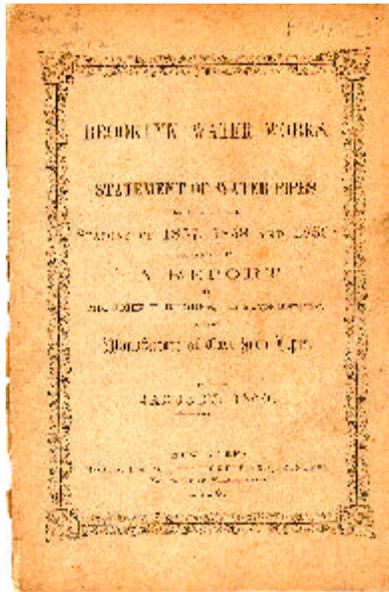
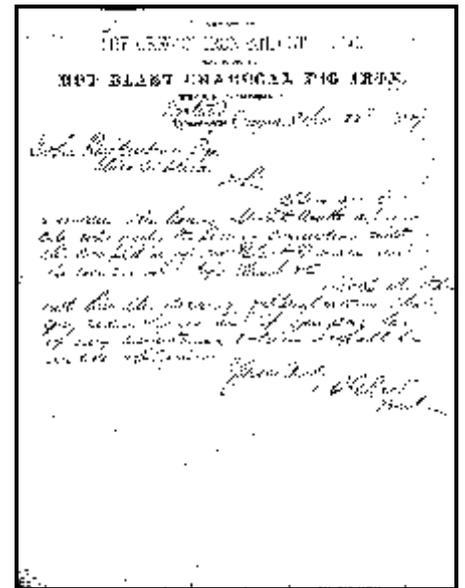
Many water projects are reflected in the papers, and they range over a wide geographic area. Philadelphia, of course, was a prime area of activity for the firm. But the firm was also active in such outlying areas as Shamokin and Venango, and Chambersburg. In addition, the firm did much work outside the state, including nearby West Point, New York, but as far away as Nebraska, Hot Springs, Arkansas, and Bloomington, Indiana.

As befitting a firm which was headed by a government expert on iron ores, the material in the papers—quite

apart from the previously mentioned pamphlets—reflects an even wider geographic range than the water supply material. States mentioned include Ohio, North Carolina, New Mexico, New Jersey, Kentucky, Mississippi and Maine, as well as localities in Pennsylvania. In addition, Cuban and Paraguayan mining activities are mentioned.

John Birkinbine had a firm grounding in mechanical engineering as well, through work in the Weimer Machine Works in Lebanon, Pa. He also married the daughter of the owner, and was later a stockholder of the firm. The papers reflect much interest in machinery, particularly as it related to the smelting of iron and the pumping of water.

These papers reflect in much detail the work of an important 19th and early 20th century engineering firm, and are a remarkable resource for the study of engineering during this important period. —P.A.M.



These papers are available for research without restriction. For further information contact Philip A. Metzger, Curator of Special Collections. Reading room hours are Monday through Friday, 1 p.m. to 5 p.m. or by appointment. Telephone: (610) 758-4506; fax (610) 974-6471; e-mail: [inspc@lehigh.edu](mailto:inspc@lehigh.edu).