# Herman Hollerith Biography

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# Biography

Herman Hollerith made a major contribution to the invention of the modern digital computer with his punched card tabulating machine, invented in 1890. His invention became the foundation of a company that evolved into International Business Machines (IBM). Hollerith was born in Buffalo, New York. After graduating from the Columbia University School of Mines in 1879, he went to work with the United States Census Bureau's division of vital statistics.

In 1881, at the suggestion of the division's director, Hollerith began designing a machine to tabulate census data more efficiently than hand methods. He based his machine, called a press, on electrical signals that were transmitted only when holes in paper or cards passed over the contacts. Electro-mechanical tabulators, like those in old-fashioned adding machines, counted the signals. He quickly changed from tape to cards that were the same size as dollar bills of that time, which let him incorporate money storage cases in his equipment. Later models could sort as well as add, and had automated card punching. Each machine could count up to 10,000 items.

Hollerith sold his first machine to the United States Army for compilation of medical statistics. He then received a contract from the Census Bureau for machines to be used in the 1890 census. He also used his invention as the basis for a dissertation and received a Ph.D. from Columbia University that same year.

Hollerith's machine saved the Census Bureau $5 million and did in one year what would have taken eight years of hand tabulating. It was the beginning of modern data processing.

In 1896, Hollerith founded the Tabulating Machine Company to sell and improve his basic machine. Patents and sales of the tabulating machine and other inventions made Hollerith a millionaire. In 1911 TMC merged with other companies, becoming the Computing-Tabulating-Recording Company . In 1914, C-T-R hired Thomas J. Watson as general manager. Watson later bought the company, naming it IBM.

Despite the development of computers during the twentieth century, versions of Hollerith's card tabulating machine still have a place in modern data processing. They are widely used in voting machines.