The Other Punched Card Company

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Who was this?

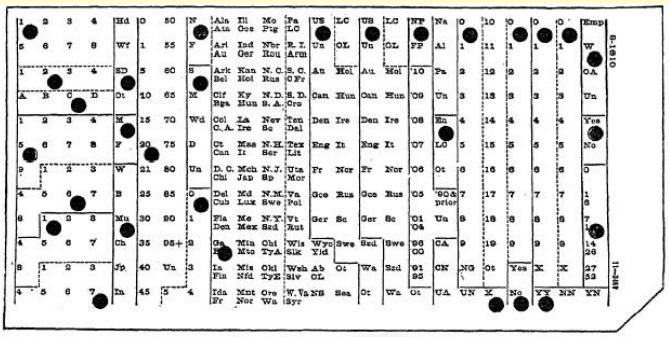
- Worked for the US census bureau.
- Invented punching, sorting and tabulating census machines, using cards with round holes.
- Left the census bureau to start his own company which shortly became international.
- Several companies, including his, joined to form a significant corporation that became an industry leader.

If you said Herman Hollerith, you'd be half right. But all those bullets apply to James L. Powers, too.

Whether it was legitimate differences, a proposed price increase or census bureau politics, Hollerith did not get the contract to do the 1910 census.

S. N. D. North, the director of the new, permanent Census Bureau, chose to develop machines internally. The census team, was led by James Legrande Powers. They avoided infringing on Hollerith's patents by using strictly mechanical sensors and linkages where Hollerith used electricity.

Their new tabulator, had an automatic feeder and card sorter, and was an improvement over the machines that Hollerith was offering. A card very similar to the 1900 Hollerith card was used for the 1910 census.



A Census Card From 1910

For some reason, the Census Bureau allowed Powers to patent the devices in his own name. In 1911, he left the bureau to form the Powers Accounting Machine Company. Power's enterprise was soon the most successful automatic tabulation company on the market. Hollerith's company, which had changed its name to the Computer Tabulating Recording Company after a merger, also in 1911, was practically run out of the market.

In 1914, Thomas J. Watson joined C-T-R and set up a research department. C-T-R soon had improved products that were competitive with those of Powers. Watson also began to implement new sales principles and a professional sales force. By 1915, C-T-R had more than three hundred customers for Hollerith machines. By the end of World War I, almost every large insurance company and railway used C-T-R machines, with only minor sales going to Powers.

In 1927, Powers merged with Remington Typewriter, Rand Kardex, and the Dalton Adding Machine Co. to form Remington Rand, Inc. Subsequently the Powers name was dropped in the US.

Like Hollerith before him, Powers established foreign arrangements.

In 1915, The Accounting and Tabulating Company of Great Britain ("Acc and Tab") was incorporated as a private company in England (formed by the Prudential Building Society). Acc and Tab established a relationship with Powers which eventually became Powers (UK). The British Powers company soon became independent of the American parent and developed many of its own machines.

In 1922, the Société Anonyme de Machines à Statistiques was established in Paris to market Powers' machines. The French company was so successful that its name was incorporated into the European company, Powers-Samas when that company was formed in 1929.

While Powers-Samas used a variety of card sizes and formats, a 40-column card measuring 4.35 by 2 inches was common. There were also 21 column and 36 column cards and equipment.

In 1959, Powers-Samas became part of ICT (International Computers and Tabulators Ltd.), later ICL (International Computers Limited) which was eventually acquired by Fujitsu.

From Gene Miya: Feynman comment

Cliff Stoll, who came by the CHM,a number of times is collecting Frieden calculators, a number of which have "RPF" scratched into their bodies which is a pretty good indicator that those calculators came from Los Alamos and were fixed by Feynman. Cliff noted to CHM that two of the engineers who designed these calculators were retired in Fremont, but we never got around to having them speak.

Early Hollerith Equipment

The equipment, invented by Herman Hollerith for the 1890 census did not remain static. It was continually updated and improved to meet the requirements of both the census and commercial customers. Here are a few of those changes.

Picture at the right shows the 1900 census tabulating machines used for the farm census which had both counters and accumulators.

The accumulators added fields like acreage or bushels which were encoded as columnar numeric data.

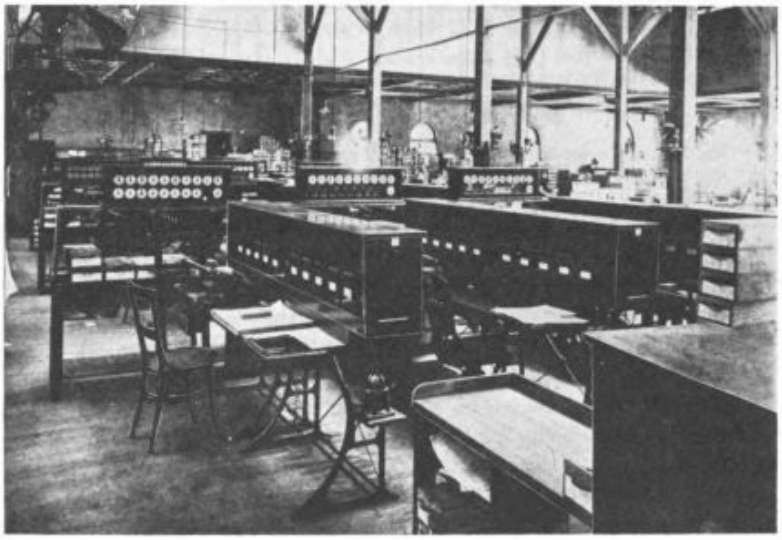


FIGURE 37.—Tabulating machines for the farm card. Note both counters for acreage, etc., and dials for farm classification.

This picture, which is very likely from the 1900 census, shows an operator using the pantograph punch and a second operator using the new (to that census) 10-key punch that was used for columnar numeric data such as the "acreage" field in the 1900 farm census card.

In the previous VIE we showed a picture of the horizontal sorter used in the 1900 census.

The following is from the IBM Archive web site.

> The original Hollerith electric tabulating system did not have an adequate method for sorting cards. This became a problem in the 1900 agricultural census, so Herman Hollerith (1860-1929) developed an automatic sorter. The first one was a tabletop model with the bins arranged horizontally. Later, when his system was gaining favor commercially, Hollerith redesigned the sorter into a sturdier, vertical machine that would not take up too much space in small railroad offices. This 070 Vertical Sorting Machine of 1908 could operate at a rate of 250-270 cards a minute.

The web site does not say that it was nicknamed "the backbreaker" because removing cards from the bottom bins was so difficult. The company soon returned to the horizontal style.

Beware the Amish Virus

When you open it, it says,
"By opening this email you have activated the Amish virus. Since the Amish do not use computers, this works on the honor system. Please delete all your files. Thank you."