THE GENESIS *of* MACHINE TYPESETTING

A Series of Talks
on the Origin and Early Development of
the Various Machines now in general use
for Setting Type by Mechanical Means

Paige Compositor Extracts

Compiled and Edited by
FRANK M. SHERMAN

Published by the
M & L Typesetting & Electrotyping Company
4001 Ravenswood Ave., Chicago 13, Ill.

1950

The Paige Compositor (*shown on p. 12 and appendix, pp. 51 and 52*)

No discussion of early forms of typesetting machines is complete without mention of the Paige compositor. The history of this machine is an interesting story of the evolution of a mechanical idea as a result of the application of several minds upon the complex problem of distributing, setting and line-justifying movable types.

J. W. Paige, inventor of this machine, and after whom it was named, early in the 1870's conceived the idea of a simple typesetter, and built his first machine to handle agate (5½ point). At first no provision was made for distributing dead matter for resetting. The final arrangement of the keyboard for setting type by characters, syllables and words was the result of a study of the English language made by a printer who worked for Paige. The keyboard finally adopted contained 109 keys, some of which were for letter combinations or chords. At first, Paige combined his composing machine with the Thompson Distributing Machine, made by the Farnham Typesetter Company of Hartford, Conn. Later, a mechanism for distributing was combined with the Paige composing mechanism and a line-justifying mechanism added. Work progressed until 1878, when the first practical test was made.

It was some months after this that the popular author, "Mark Twain," first became interested in the machine through the purchase of stock in the Farnham Typesetter Company. It is said that through his influence a number of prominent men were interested in investing capital in the new machine and that later, when the company failed, Twain is said to have reimbursed each of these investors for the losses sustained. Twain's initial investment consisted chiefly of royalties received from the publication of "Huckleberry Finn." When the Paige compositor was finally perfected, about 1890, it is said that many leading newspapers and publishing houses expressed their confidence in it and said they were ready to contract for its use.

The capital required to put the machine on the market in quantities was difficult to raise, primarily because Mr. Paige, who controlled the patents, is alleged to have refused to part with a sufficient interest

to induce capitalists to invest the large amount of money required. It is generally recognized by those who were familiar with the machine and qualified by experience to express an expert opinion, that it was Paige's attitude rather than any mechanical failure or defect in the machine which prevented it from going into practical use.

The Paige Stood the Test of Practical Operation

Finally in 1892, a contract was made to build the machines and a number of craftsmen were selected to redesign a model machine. An effort was made to complete the machine in time for exhibition at the World's Fair in Chicago in 1893, but it was not ready, and in the Fall of that year work was stopped. In September, 1894, a machine was erected in the office of the Chicago Herald, and a 60-day run was started on copy taken from the hook. During this test two or three radical changes were necessary, but even in the face of this handicap the Paige compositor met the test ably and was held to be successful. In fact, the record of this machine during the trial may be said never to have been equalled by any other composing machine in its maiden test. Moreover, the composition turned out was equal to the finest book work set by hand.

The Paige compositor has been pronounced by competent engineers to be the foremost example of cam mechanism produced in the United States, if not in the world. It was extremely complicated, and yet worked successfully. It weighed about 5,000 pounds, was approximately 11 feet in length, 3½ feet wide and 6 feet high and had 18,000 movable parts. It was especially designed for newspaper work and used nonpareil type (6 point). The distributing, setting, justifying and leading mechanism were adjustable to any newspaper or book work measure. It is said an expert operator could set up and justify from 9,000 to 12,000 ems an hour on it. Only two machines were ever built.

Mr. C. E. David, patent Attorney, who was closely associated with the matter and familiar with the accounts, said the total sum of money put into the development of the Paige compositor was approximately one and a half million dollars.

In writing the epitaph of the Paige compositor one author says: "The application was filed in 1887 and was pending eight years, mainly owing to the work of the patent office. One of the examiners died while the case was pending, another died insane, while the patent attorney who originally prepared the case also died in an insane asylum."

From the foregoing it appears that for a period of about sixty years prior to 1880 the history of the development of the composing, or typesetting machine is a story of unfulfilled ambition and bitter disappointment; but these early efforts no doubt aided materially in the development of later successful machines through the lessons that could be drawn from the design of these pioneer machines and the experiences of their inventors. Though, with the possible exception of the Thorne machine, the inventors had not sufficiently met the exacting requirements of commercial operation, they had made plain to close students of printing history and development that a more successful machine would very likely soon appear.

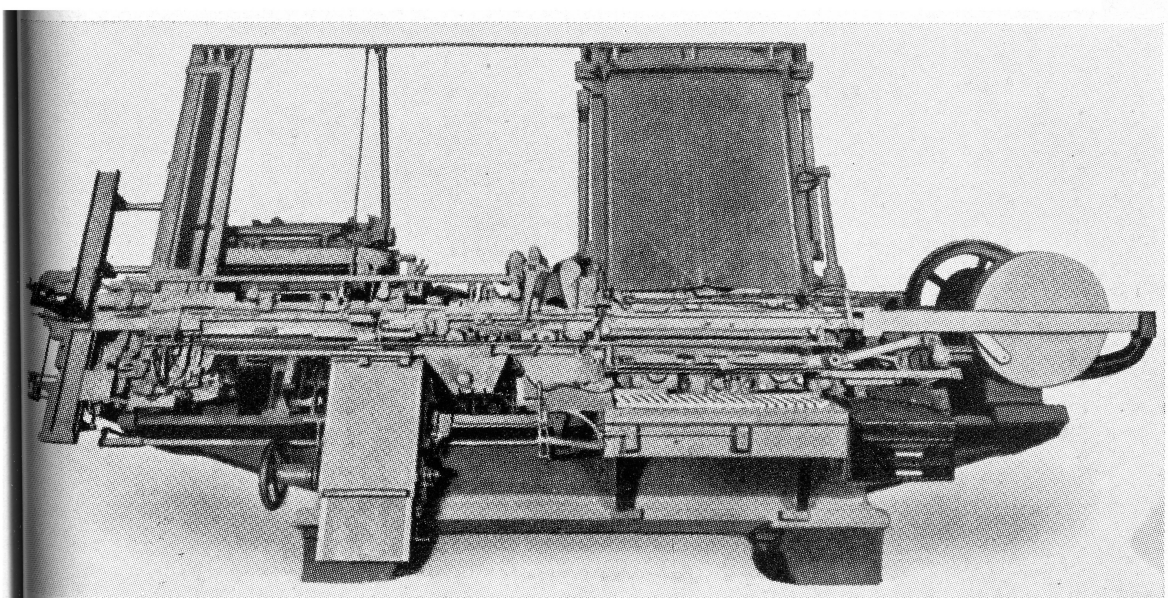
It must be understood that this résumé of the early development of the typesetting machine does not presume to mention all of the various distributing, composing, line-justifying and type-casting machines which were invented prior to 1885. Only the most important ones have been mentioned. Some of these, particularly the Thorne machine and its successors, were actually in use in the industry during the time Mergenthaler and Lanston were carrying on the work which later resulted in the invention of the Linotype and the Monotype. A great many machines of various kinds and classes were invented. Some of these achieved actual operation, while others never got beyond the experimental stage.

Machines Using Hot Metal

This short history now brings us to the introduction of the first practical typesetting machine which used hot metal. This machine was invented by Ottmar Mergenthaler, and we know it as the Linotype. A few years after the Linotype came on the market the Monotype

FROM: WARNER BROS. STUDIO, BURBANK, CALIFORNIA

PRINTER'S NIGHTMARE—*Few know it, but Mark Twain, who wrote "Tom Sawyer," "Huckleberry Finn" and other great American classics, was an inveterate backer of inventors. He lost a large part of his fortune, once, financing a budding genius who had dreamed up a machine which was the forerunner of the modern linotype. This phase of Twain's life is included in Warner Bros.' "The Adventures of Mark Twain." In this scene* FRANCIS PIERLOT, *playing the inventor, demonstrates to* FREDRIC MARCH *and the dubious* ALEXIS SMITH (*they're Mr. and Mrs. Twain*) *his crane-like mechanism. It would drive a modern printer daffy. It almost did Mr. Twain.*



PAIGE COMPOSING, LINE-JUSTIFYING AND DISTRIBUTING MACHINE, Circa 1870 *The first and most complete machine to perform these three functions. (front view.)*

A View of the Paige Composing, Line-Justifying and Distributing Machine. (*front view from left end.*)