

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*

Excerpt on the Thorne/Simplex/Unitype
from the Appendix by Frank M. Sherman
"Steps in the Evolution of Mechanical
Typesetting"

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

1950

The first keyboard composing machine which can be said to have had successful operation was the invention of R. Hattersley, whose British patent was granted in 1857 and the machine introduced in 1859. The Hattersley machine marked an advance in the art because the type was deposited directly in front of the compositor, who could then justify it by hand and transfer the line to the composing stick. A type distributor was a later complementary device. (See illustration, p. 49.) The Hattersley machine was used to a considerable extent in England. Its speed in the hands of a competent operator reached 7,500 characters (3,500 ems) per hour.

The next composing machine of importance in the evolution of the art was called the Empire (originally called the Burr machine), and one of the first American machines to go into general use. Type was deposited in an assembly channel and justification effected by a second operator. The Empire remained in use for many years after its introduction about 1880. (See illustration, p. 48.)

The Paige Machine Was Best Known

Among the machines which promised success during this period was the Paige machine, invented in the early 70's by James W. Paige of Rochester, N. Y. This was the device in which Mark Twain had such faith as to cause him to sink something over a quarter of a million dollars. The Paige was a wonderful piece of mechanism. It was 11 ft. long, 3½ ft. wide and 6 ft. high, weighed approximately 2½ tons, and had nearly 18,000 parts. One of its features was a keyboard by means of which combinations of letters forming the simplest words and couplets in common use could be assembled at one stroke. It was claimed that after a few weeks' training a Paige operator could easily set from 8,000 to 10,000 ems an hour. However, its mechanism was too complicated to be mastered by any but the most skilled mechanic, and in consequence it failed to meet commercial requirements. After almost twenty-five years of effort and an investment of over two million dollars the Paige typesetter passed into oblivion. (See illustrations, pp. 51 and 52.)

The Dow was among the first machines which both composed and automatically justified type. It was invented in 1896 by Alexander Dow of New York City, but

the opportunity to prove its value was eclipsed by the rapid introduction of the Linotype for general use. Without this competition the Dow might have had the success its general design appeared to merit.

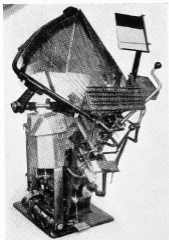
The Thorne Was the Most Successful "Cold" Machine

The Thorne, Simplex and the Unitype were the most successful machines in the cold metal classification. These three machines represent the gradual evolution of a patent for a typesetting and distributing machine granted by the United States Patent Office to J. Thorne in 1880. In its earlier forms the Thorne did not justify type into lines.

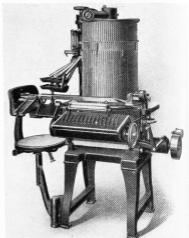
In a second form of the Thorne machine, named the Simplex composing and distributing machine, a line-justifying mechanism was added. The Unitype was a still further development of the Thorne. It had a line-justifying attachment as well as an automatic distributor. It was manufactured in Brooklyn by the Unitype Company, and it is said that more than 2,000 Thorne, Simplex and Unitype machines were in use in the United States and Canada at the time of the general adoption of the Linotype by American and Canadian publishers and printers, about the year 1900. (See illustrations, pp. 48, 50 and 52.) The Unitype was capable of setting up to 4,000 ems of "brevier" per hour in the hands of a thoroughly competent operator and with the help of an assistant in line-justification and in recharging the type-loading galley of the distributor mechanism.

The "Hot" Machines Superseded the "Cold" Ones.

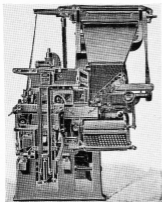
Of the composing, justifying, casting and distributing machines of the hot metal classification the best known are the slug-casting Linotype and Intertype and the single-type casting Monotype—each of which is referred to in detail in its respective chapter of this brochure. Other machines which delivered their product in the form of slug-lines, and in use in the United States and in Canada, were the Monoline, invented by William S. Scudder in 1892 (see illustration, p. 23); the Rogers Typograph, invented by John R. Rogers about 1888 (see illustration, p. 48); the Linotype Junior, evolved from the Typograph, and the Linograph. Of these machines (other



THE ROGERS TYPOGRAPH, Circa 1880. Invented by John Rogers and mostly used (1890-1910) in small-town newspapers in the U. S.



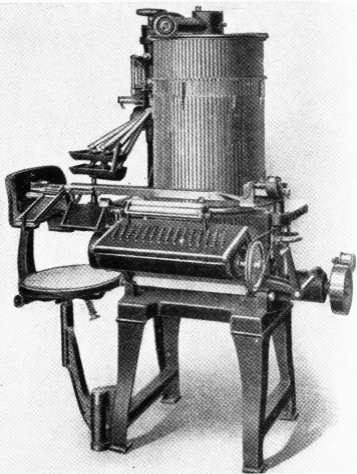
THE UNITY. A first evolution of the original Thorne invention and successful in operation.



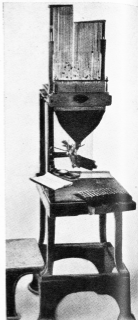
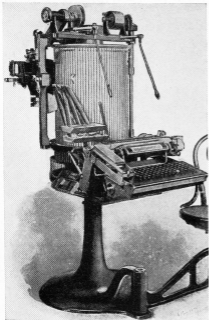
LINOTYPE "SQUARE" BASE MACHINE, Circa 1890. This machine was manufactured in Baltimore and was the first Linotype to have extensive use. It employed a "rod" space-band for justification of lines of matrices. It was superseded by the star-base machine made in Brooklyn, using the "steel wedge" spaceband.



EMPIRE COMPOSING MACHINE, Circa 1880. The first American machine to achieve practical operation. It had somewhat general use until superseded by the Thorne and later by the Linotype. It had a complementary type distributing mechanism.



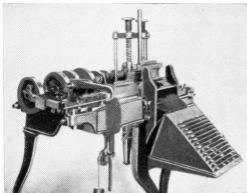
THE UNITYTYPE A final evolution of the original Thorne invention and successful in operation.



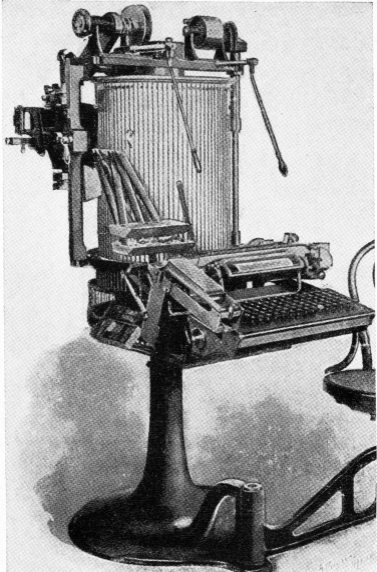
HATTERSLEY COMPOSING MACHINE, Pat. 1857 The first typesetting machine which had general use in publishing and printing in England. Line-justification was done by hand, but distribution of type was a complementary operation by a separate machine.

(Left, above)

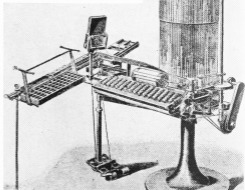
THORNE COMPOSING AND DISTRIBUTING MACHINE, Pat. 1880 The most successful of the "cold metal" typesetting machines.



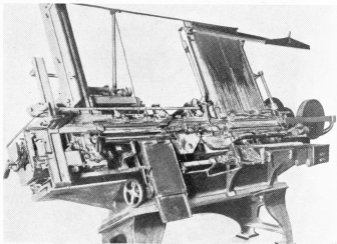
THE CASTTYPE, Pat. 1900 A single-type casting machine with a separate mold for each unit-width of character.



SIMPLEX TYPESETTING MACHINE. An
improvement on the Thorne machine.



A VIEW OF THE PAIGE
COMPOSING, LINE-JUSTIFYING AND DISTRIBUTING
MACHINE. (front view
from left end.)



SIMPLEX TYPESETTING MACHINE *An
improvement on the Thorne machine.*

