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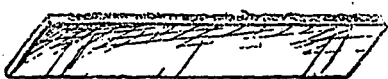
MONTREAL & NEW YORK, JUNE 26, 1891.

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THE LINOTYPE.

This real marvel is a machine about six feet square, and comprises type boxes, setters, and distributors, plus a type foundry. The operator sits before the machine and spells out his copy by pressing keys (A) arranged like those of a type-writer. A set of flat vertical brass tubes (B), arranged like the pipes of an organ, hold the little brass moulds or matrices for the different letters. Each lettered key when struck opens a door at the bottom of the corresponding tube, and lets one—but only one—matrix fall into an inclined pipe (C) which runs under all the tubes. A puff of compressed air admitted into the higher end of the tube blows the matrix down into a frame, where it is forced up alongside its predecessor by an automatic finger (D).

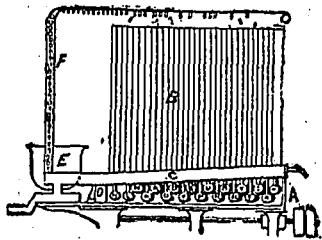
When enough matrices have been packed to make a line of type (hence "linotype"), a bell rings, and the little frame, about three inches long, an inch deep, and an eighth of an inch wide, slides along the machine until it arrives opposite the mouth of a large pot (E) of molten type metal, which is kept at a proper temperature by a gas jet. The valve closing the mouth is automatically opened, and a ram descending into the metal forces enough through



WIDTH OF A COLUMN.

to fill the little mould. The mould then separates and drops the casting into a planer, where the "runners" which have admitted the metal are planed off and the "line of type" trued up accurately, ready for setting up and stereotyping. All this is sufficiently clever, but the distribution of the matrices into their respective boxes is the crowning feat.

"When the casting has been made and dropped, the little brass moulds are sepa-



SECTION OF MACHINE.

rated and picked up by an endless band (F), which runs up from the foundry and along the top of the machine. The matrices are formed with wards like those of a key, and as they travel over the top of the machine they pass over all the tubes until they come to their own particular one, into which they

drop. The tube wards allow each matrix to pass except the one belonging to it, and that one is intercepted.

The lifelike way in which the matrices march along over the top of the machine and drop methodically into their own domicile is so amusing that in laughing at it one almost forgets to admire the ingenuity of the inventor.

Should an insubordinate matrix attempt to drop off where it should not, it instantly finds itself literally in the "wrong box," for an electric circuit is completed, an alarm bell rings, and the machine stops until the man looks along the line and finds that some wretched E has been trying to get into the F's box.



MATRIX.

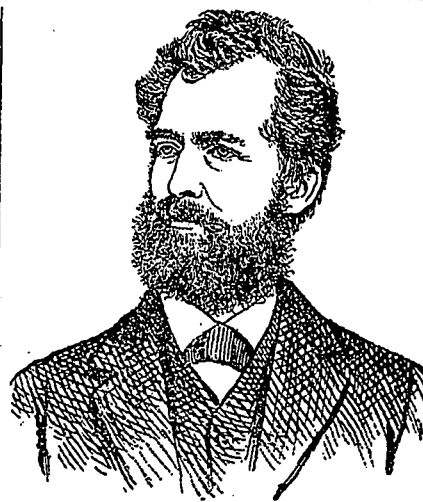
The matrices lasts for years in spite of their many journeyings and heatings, and the machines appear to give but little trouble. A dozen or more are at work in the office of one of the large New York dailies, which is entirely printed by the linotype process, and is one of the best printed papers there. The linotype is certainly one of the most striking examples of time and labor saving machinery in the world.

For four hundred years there has been little advance in 'the art preservative' of all the arts. In Germany, to-day, it is said there is in regular use type which was used about 1460 by Guttenberg, who invented the method of printing by movable type. But eighteen years ago Ottma Mergenthaler, of Baltimore, invented the machine of which the above is a description, so that it has now passed the experimental stage and is an acknowledged success. Ninety percent of all the matter used in the New York Tribune is produced by this machine, and it is used with equal success by many other journals. Four machines are already set up in the Government Printing Bureau, Ottawa.

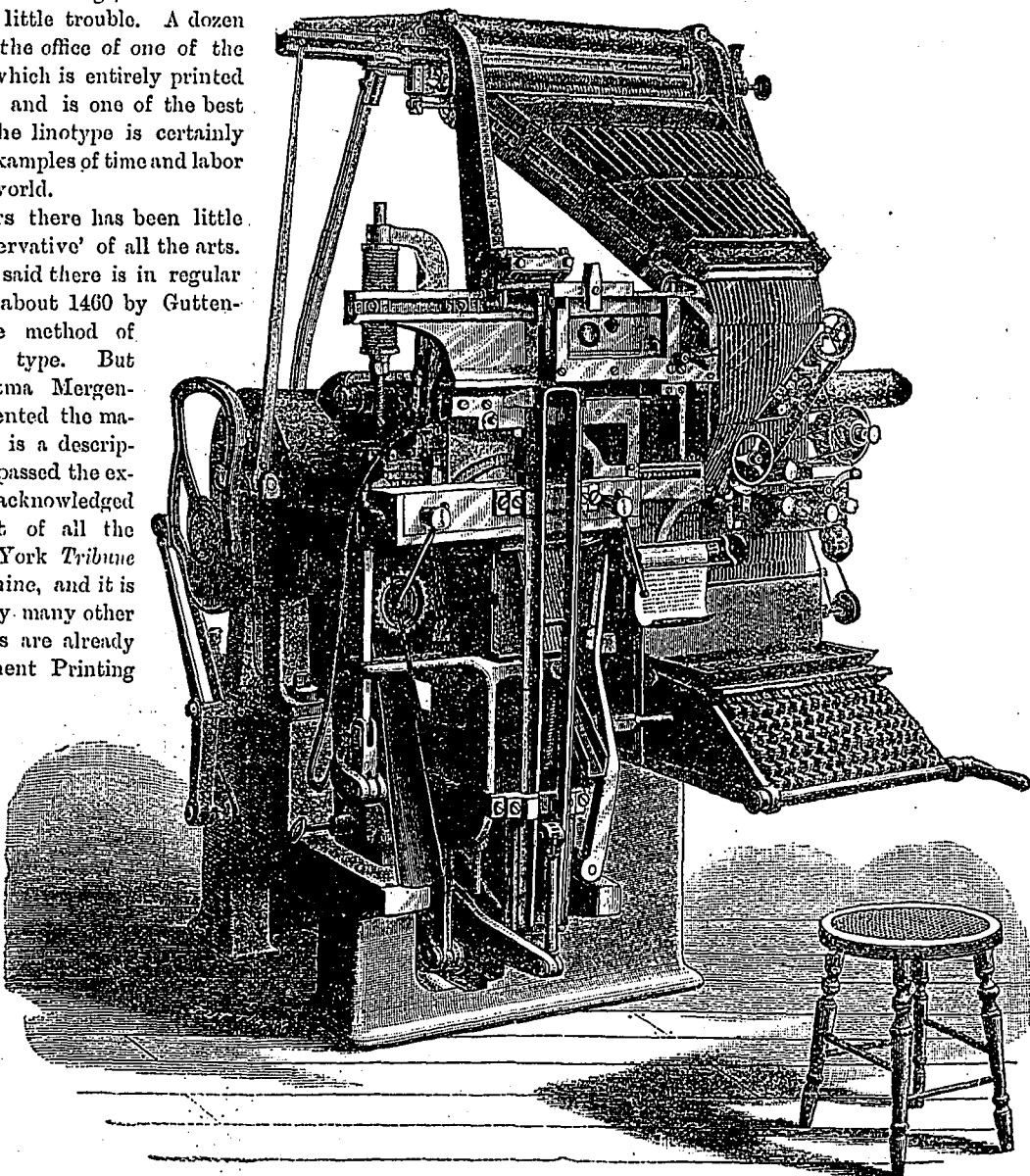
"The use of this machine," says one of its advocates, "very greatly reduces the cost of the work on a newspaper. The hours of labor to the workmen on the machine were also reduced and their wages increased; the health of the workmen was improved, and, in a word, the introduction of this machine has so far resulted in a benefit to all those connected with it, except probably to the inventors and manufacturers, who have

spent nearly two million dollars in bringing it to perfection."

"While many skilled mechanics and others have," says the same authority, "for years devoted time and money without stint to the invention of machinery for setting type, Mr. Mergenthaler, of Baltimore, was the first to hit on the idea of casting a perfectly "justified" type line, which is the central principle of his invention. This he has worked out until the machine is perfectly automatic, and seems possessed with intelligence almost human. He is permanently engaged by the company which bears his name, but declares that the new linotype is complete and answers every requirement." What is wanted next is a proof-reading machine, and then one to read the papers for us, and pack the information into our brains.



OTTMA MERGENTHALER.  
Inventor of the Linotype.



THE LINOTYPE.

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