thoroughly in all the various kinds of lithographing — crayon, penwork, rub-tint, transfer work, and drawings of all kinds — and, it is said, have been pronounced equal to the German stone. For engraving, the most difficult work that is done on stone, it is said to be the best in the world. The best stone today is what is technically called the blue-gray, and it is claimed all the stone in the Missouri quarry is of this variety.

Lithography is one of the most progressive and promising arts of the present age, and the essential basis which supports the art is good lithographic stone. It is today a valuable adjunct to the art preservative. To show its progress in Chicago it may be stated that before the big fire there were eighteen lithographic presses; today there are forty-four, and more being added every month.

The company formed to work the Missouri quarry has a capital stock of \$1,000,000, a controlling interest of which is held by Chicagoans. Machinery costing \$11,000 has been put in for quarrying purposes alone.

## THE TYPEFOUNDRIES OF THE UNITED STATES.

NO. IV - THE CINCINNATI TYPEFOUNDRY.

The origin of the Cincinnati Typefoundry dates back to 1817 seventy-four years ago. In that year, Oliver Wells - formerly connected with the White Foundry (Farmer, Little & Co.), New York — journeyed by flat boat, with a few boxes of typefounders' tools, to the village of Cincinnati, and established, on lower market, above John P. Foote's grocery, the first letter foundry this side of the Alleghanies. It was not a very extensive concern: a few hand molds, a few roman faces, and a kettle to melt the metal - that was all; but it was sufficient for the demand of the time and the locality. Competition with other foundries was, on account of their great distance and the bad roads, out of the question; and thus it was that, notwithstanding its meager facilities and primitive tools, this foundry was quite able to supply the wants of the printers in its immediate neighborhood. A typecaster's day's work, at that time, was about five pounds of long primer and very poor stuff it was, too, compared with the productions of the present day; but at that period the printers thereabouts were not so particular as they are nowadays, while the public was satisfied if the print was readable.

The original heads of the enterprise were Oliver Wells, Horace Wells and John White. In 1830 the partnership was changed to a corporation, the stockholders being Elihu White, of New York; Oliver Wells and Nathan Guilford, of Cincinnati. About the same time press building was added to the manufacturing of type — hand presses, of course; for this was only sixteen years subsequent to the appearance of the first cylinder power press in London, England, the invention of one König, a German.

About 1840 a great improvement was introduced, the foundry adopting the Bruce Typecasting Machine, by the aid of which one man was enabled to do as much as could be done by six men with hand molds, turning out, besides, a better quality of work.

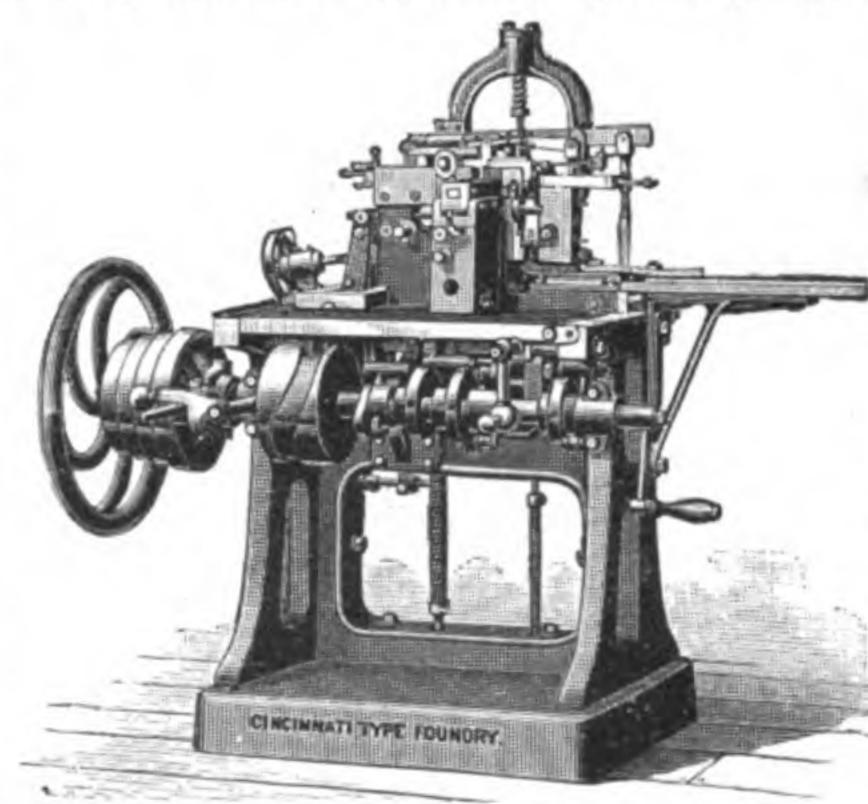
After the retirement of Oliver Wells, in 1833, the management passed into the hands of his oldest son, Horace, who died in 1851, and was succeeded by Lemuel T. Wells. The latter, in 1861, transferred the business to Charles Wells, who, assisted by Henry Barth and William P. Hunt, managed the concern until his death, May 10, 1885. These latter have remained, since that time, the officers of the company, as president and treasurer respectively.

In 1861 a very dark period in the business life of their city affected them severely. All their business relation with the South was paralyzed by the war, while, in the North, lead was used for making bullets—not for type; in fact, there was no business doing at all. But they were not idle during this period of depression. They knew that everything—even a war—must come to an end, at some time; and so, having no outside business to attend to, they gave their undivided attention to internal affairs, and bent their entire strength and energy to the task of bringing their facilities, mechanical and artistic, if possible, to a higher standard than those of their competitors. This was a hard and tedious

undertaking, but they succeeded, and, in ten years, reorganized the whole foundry. From that time on all their productions have ranked with the best, and the local concern of former years has become a base of supplies for printers all over the world. Cincinnati type and machines are found in England, France, Australia, South and North America—in the latter from Maine to Mexico, from New York to San Francisco.

The progress made has not been confined to letter making, but extends to all other branches; printers' and typefounders' machinery has received equal attention, and from the small beginning the building of hand presses — has been developed one of the best machine shops in the West. Their specialty in this department has, of course, been the manufacture of printers' tools. In 1853, they built some of the first platen job presses; in 1855, the first cylinder presses west of the Alleghanies; in 1860, the well-known and never excelled Nonpareil presses. The first color (chromatic) press was also their own invention, with many other novelties, which cannot be specified within the limits of this article. Their principle, in all their transactions, has always been to make the most serviceable articles in preference to cheap ones, believing that good work at fair prices will - if slowly, yet surely - win in the long run. Consumers are best convinced of the value of goods by their usefulness; therefore, though it sometimes happens that a poor, inferior article, by means of persistent advertising, drumming, etc., appears to be in the lead, its success is only temporary, and the genuine article gets ahead entirely on its own merits.

One of their very latest improvements is the complete typecasting machine (patented January 24, 1888) as shown in the



Several machines of a similar description have already been built in Europe, but they are not adapted to the wants of the American type-founders, who have to furnish their customers with harder, better and more correct type than is considered necessary by their brethren on the other

side of the Atlantic. The European machine being altogether worthless for their purpose, they set to work themselves to make a machine capable of answering their requirements, and they succeeded. Their machines turn out type absolutely correct, mathematically, and they can cast metal superior, in hardness and durability, to any used heretofore. Besides this, the quantitive capacity of their machines is at least fifty per cent higher than that of the foreign ones. At first they had but a limited number of machines running, which they used in casting material needed for tabular work, which, as all are aware, requires the utmost accuracy, but now they have a sufficient number to cast all their book type by the new method.

Besides manufacturing type, the company keep on hand a large assortment of printing presses and printers' supplies generally, as well as inks.

The first printing press in this country was set up in Harvard in 1639, and W. Lewis Frazer, the artist lecturer, finds that the first American-made illustration appeared in Tully's Almanac of Boston in 1698. Increase Mather's "Ichabod," published in 1703, contained an American copperplate portrait, and from 1720 books were regularly illustrated in this country by American workmen. Mr. Fraser says he has every reason to believe that Benjamin Franklin was an engraver either on wood or type metal. If that is so, then three men who figured conspicuously in our revolutionary war were illustrators. Paul Revere was a copperplate engraver; Isaiah Thomas, the printer who distinguished himself at Lexington, was another, and Franklin was the third.

