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DISCURSIONS OF A RETIRED PRINTER.

NO. IV.— BY QUADRAT.

FIRST TYPE CAST IN AMERICA.— THE EARLIER TYPEFOUNDERS— ORIGINS OF EXISTING TYPEFOUNDRIES.— FIRST TYPE AND PRINTING-PRESSES MADE IN THE WEST.— AMERICAN ORIGINS OF METAL SHAVING MACHINES, STEREOTYPE BLOCKS AND TYPE-CASTING MACHINE — THE WEALTHIEST TYPEFOUNDER.

TO enter the typefounding business in the times prior to the introduction of the typecasting machine no great amount of capital was required. The chief difficulty was in securing matrices, for typefounders jealously guarded their punches, and seldom could be induced to sell; so when a man was rated a good typefounder, we are to understand he was a good punchcutter. Ability to cut satisfactory steel punches was more necessary than capital.

Printing, as every reader of this journal is presumed to know, was first practiced in the British North American colonies at Cambridge in 1639, nearly a century after the Spaniards introduced printing in Mexico, but it was not until 1768 that Mitchelson, a Scotchman, arrived in Boston with typemaking apparatus, and attempted to do business; failing, however, to get support. He probably cast some type, but no record of it exists.

There is preserved in the State archives of Connecticut a specimen sheet of the first type known to have been made in America. This was a long primer font, and the specimen consists of a petition, dated October, 1769, setting forth that Abel Buel had succeeded in making type, but lacking the money necessary to purchase the apparatus needed, he asks the general assembly to authorize him to raise the funds by means of a lottery. The assembly eventually loaned him £100, with a promise of another £100 after he had been making type a year, the loans to run for seven years. The State records show that £100 was repaid by Abel's wife, Aletta, in 1777, at which date she did not know where her husband was, and doubted if she would ever see him again. But Buel turned up again. His type was well cut, but he was too busy a man to cast much of it. Born in Connecticut, he was the prototype of Sam Slick, a jack-of-all-trades and pretty good at all. He was probably a printer, for in 1766 he was pardoned from a life sentence for counterfeiting the State's paper currency. After this he invented a method of polishing crystals and precious stones, became an undertaker, and then a singing master, in which capacity he was brought before the magistrates for shocking the community by desecrating the meeting-house by introducing a bass viol into the choir, causing the deacons some query as to whether Abel should not be renamed Cain. One year after he got his loan of £100 he was arrested for having, with others, pulled down and destroyed a leaden statue of George III. in New York, and for combining disloyalty to his king (or patriotism to his country, if you prefer) with mercenary motives, a large part of the statue being found on his premises in the process of transformation into type. Perhaps this was the time his good wife lost him, for he became an active and persistent rebel. He was one of the famous Boston Tea Party, served a cannon at Concord and Lexington,

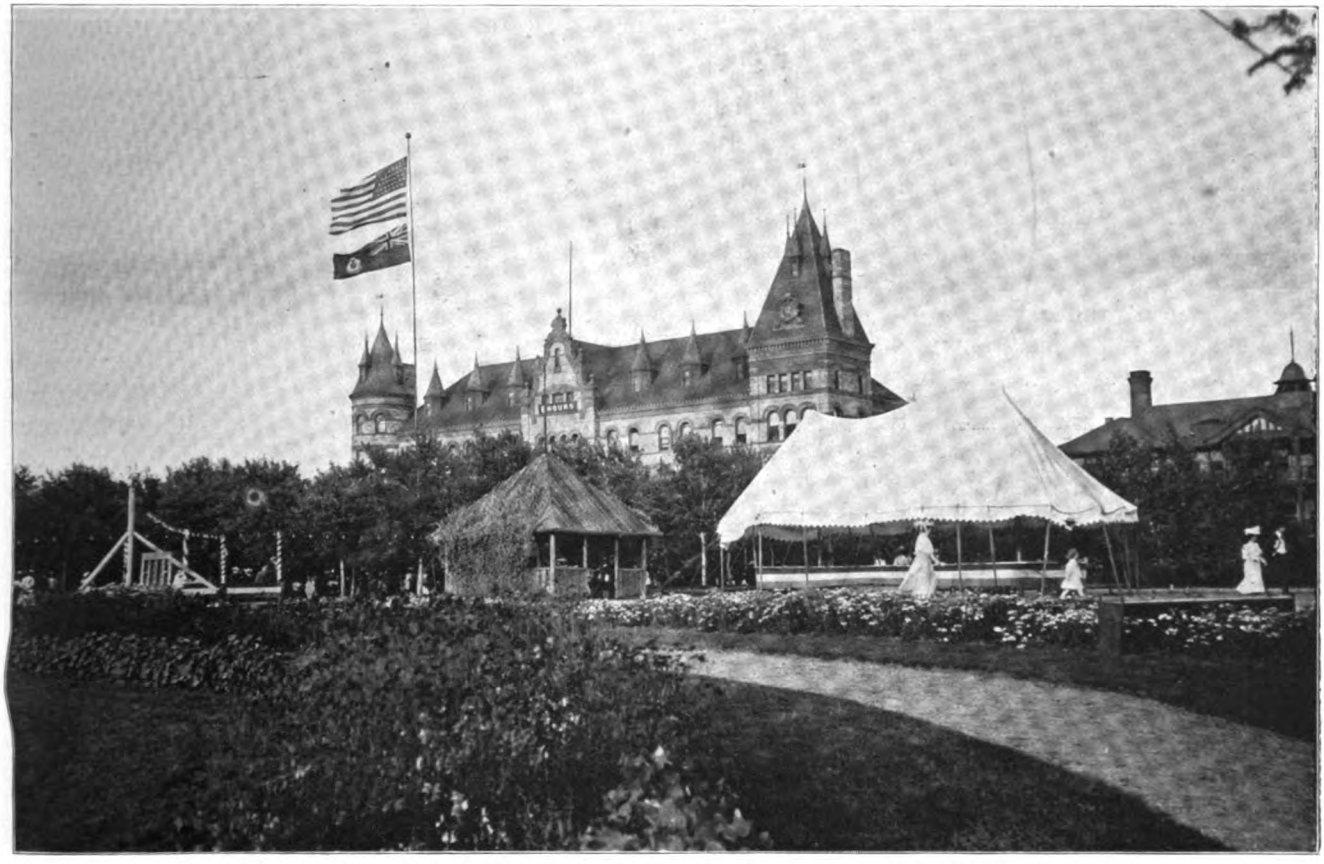
was wounded at Bunker Hill, and at one time was imprisoned on the British prison ships in Wallabout Bay, Brooklyn. After the revolutionary war he was employed to map the coast line from Maine to Florida, and then he had charge of a mint for the State (coining pennies), constructing the coining apparatus himself. He visited England, studied cotton spinning, and, buying the necessary machinery, erected the second cotton mill in America, at New Haven — the first being at Pawtucket, Rhode Island, in a building that was still standing twenty years ago, and probably is there yet. The first American typefounder's picturesque but useful career ended in 1825, at the age of seventy-five.

The first typefoundry in America was started in 1772 by the son and successor of Christopher Saur, a printer from Germany who, in 1735, had established a printing and publishing business for works in the German language at Germantown, Pennsylvania. In 1740 the father imported matrices and apparatus for casting a pica font for the first Bible printed in German in America, which was kept standing. The son anglicized his name to Sower, added an English department to the business and English matrices to the foundry, and increased it to large proportions for that period, operating its own paper mill and ink factory. An edition of the pica German Bible printed in 1776 was seized and used for gun wads in the battle of Germantown. Two imprints were used — Saur on German publications and Sower on the English. Descendants of this enterprising family are still connected with the publishing business in Philadelphia. Biographical dictionaries and other works of reference are unanimous in conceding to the Englishman, Robert Raikes (1735-1811), the honor of establishing the first Sunday-schools. A statement to this effect, and adding that Clark & Raser, printers, of Philadelphia, were the first to print Sunday-school books in America in 1813, appeared in a Philadelphia journal, and immediately drew out the following letter from Christopher E. Sower, a descendant of the first American typefounder, dated June, 1882: " . . This is a mistake growing naturally out of the English assumption that Sunday-schools were unknown until Robert Raikes originated his, and nurtured by our American habit of ignoring the non-English pioneers in the settlement of our country. Sunday-schools were so common in Pennsylvania nearly half a century before Raikes commenced his, that even Sunday-school buildings were erected for their accommodation. One built by the Schwenkfelders as early as 1740, in (now) Montgomery county, was still standing a few years ago. I have in my possession not only Sunday-school books, but Sunday-school tickets printed in Philadelphia in 1747 and thereabouts when Raikes was an infant." Having seen and examined these works of the Saur press, I feel warranted in requesting our English friends to concede priority in this important religious development to the good old commonwealth which was granted to William Penn in fee simple, with all its unguessed wealth of oil and coal and iron, for the annual charge of two beaver skins and one-fifth of all the gold and silver found therein. Messieurs Encyclopedists, take notice!

Next in order of time came Jacob Bay, who cast and sold type in Philadelphia in 1774, and " John Baine and Grandson in Company " (so ran the firm's name), who established another letter foundry in the same good city in 1788. A copy of the Baine specimen sheet, printed in Edinburgh in 1787, is in the library of the American Antiquarian Society at Worcester, Massachusetts. Baine had been a partner with Alexander Wilson, the first Scotch typefounder (Glasgow, 1742), whose business is still in operation in Edinburgh under the style of the Marr Typefounding Company. Baine separated from Wilson in 1749, and conducted his business first in London, then in Edinburgh. He sent his grandson to America to " spy out the land," and then he came to Philadelphia, where he died in 1790, aged 77; whereupon his grandson relinquished the business. Isaiah Thomas, in his " History of Printing in America" (Worcester, Massachusetts, 1810), says that the Baines were good workmen and had full employment. Next to appear on the scene was Adam Gerard Mappa, who brought a typefoundry from Holland, his native land, to New York in 1791, where he continued until 1796. Benjamin Franklin Bache, grandson of our great Benjamin of honored memory, owned a small typefounding outfit that his grandfather had purchased in France during the time he represented the revolted colonies at the court of Versailles.

In 1793 Archibald Binny, a Scotchman from Edinburgh, arrived in Philadelphia with the tools of a typefounder and a knowledge of typemaking. A year later James Ronaldson, also from Edinburgh, and a man of capital, arrived and started a biscuit bakery. In 1796 the biscuit bakery was destroyed by fire, and young Binny, who had been working around and studying the type business, persuaded Ronaldson to go into the business with him. Binny's equipment was credited as an investment of $888.88. The new firm evidently had far-reaching plans, for it at once began to acquire the plants of its competitors, and finally absorbed them all. Sower and Mappa sold to Binny & Ronaldson, Mappa entering their employ, where he remained seven years. In 1799 John Baine's apparatus and matrices were purchased for $300, evidently a bargain; and as no further authentic

mention is found of Jacob Bay, it is supposed that his outfit was also acquired. In 1806 the letter founding apparatus of Benjamin Franklin, which had been stored for some years, was offered to Binny & Ronaldson, and Binny was so anxious to acquire it that he went for it the same day and trundled it home in a wheelbarrow, thus emulating the original owner, who, even after he had become the most famous American of his day, was frequently seen on the streets of Philadelphia with his wheelbarrow, carrying merchandise to and from his shop. These purchases disposed of all competition, and Binny & Ronaldson enjoyed a monopoly until 1810. Lockwood's "Dictionary of Printing and Bookbinding" (New York, 1894), an incomplete, inexact and contradictory publication, states that Sower's letter foundry passed into the hands of Justus Fox, and upon his death was removed to Baltimore, where it was in operation down to 1817. Binny & Ronaldson's account books prove the purchase by that firm, and, writing in 1878, Thomas MacKellar, a successor of Binny & Ronaldson, says, "and some of the matrices (Sower's) remain in the possession of the house until this day." Binny & Ronaldson did an extensive business and became wealthy. In 1797 they manufactured the first dollar ($) sign ever made. The Continental Congress adopted the dollar as the unit of coinage in 1785, but the first American dollar was not coined until 1793. In 1810 Binny patented an improvement on the hand mold that materially increased the output of a caster. Although an experienced typefounder he admitted that he found the tools brought from France by Franklin were more ingenious than the typefounding appliances used by English-speaking typefounders. During the war of 1812 Binny & Ronaldson cast balls and buckshot, charging "two shillings a pound" for balls and "four shillings a pound" for buckshot. A memorandum in an office copy of one of their specimen books shows that they had five hundred and forty thousand pounds of lead on hand at one time in that year. The earliest known specimen book of Binny & Ronaldson is of 1809; others were issued in 1812, 1814, 1816 and 1822. These books came into the possession of the American Type Founders Company in 1892, and are doubtless preserved by it. Binny withdrew in 1815 to go into stockraising, and the specimen book of 1816 contains a eulogy of him written by James Ronaldson, who continued the business alone until 1823, when he retired in favor of his brother Richard, devoting himself to his houses, for he had many tenants, and to his cotton mill of one thousand two hundred spindles and to various philanthropies among crippled and orphan



THE PRINTERS' HOME, COLORADO SPRINGS, COLORADO.

children which did credit to his good old bachelor heart. He died in 1842, but the letter foundry passed by purchase into the possession of Lawrence Johnson and George F. Smith in 1833, thereafter to be known as the Johnson Type Foundry and to become the foremost in the world, of which more anon.

In 1805 William Wing of Hartford conceived the idea, erroneous but frequently recurring in the history of typemaking, of casting a number of types at one operation by a machine. A patent had been taken out in Scotland for casting from a matrix containing several characters and sawing them apart, using a hand mold. Wing's patent provided for casting from twenty to thirty types at one time from one matrix, the types leaving the mold in one piece, each type attached to a shank, like the teeth on a comb. Wing was sublimely ignorant of the art, not even having seen a hand mold, but he interested Elihu White, also of Hartford, in the experiment, and White was persistent and soon took the whole burden on his misguided shoulders. In 1810 White had laboriously and expensively learned what he didn't know about casting type, but his appetite was whetted, and he determined to go into the business a la Gutenberg. He had in his employ three first-class Yankee mechanics — Oliver Wells, Edwin Starr and Nathan Lyman, all of whom were destined to own letter foundries of their own; but none of them had seen a type mold, and the only molds on American soil were carefully guarded in Binny & Ronaldson's monopolistic foundry. Diplomacy was used; Starr was sent to Philadelphia to ask for employment, representing that he had quarreled with White, and was ready to disclose the secret of Wing's wonderful new machine. The Scotchmen were cautious and hesitated, but at that point they received an indignant letter from White denouncing Starr's perfidious conduct, asking them not to employ him, and cautioning them not to use any information imparted by Starr. This trick persuaded Binny & Ronaldson of the truth of Starr's story, and they hired him. He duly described the machine that had proved a failure, while he secretly copied the hand mold that was the initial step from which sprung the present Farmer foundry of New York, the Cincinnati Type Foundry, and the erstwhile Lyman foundry of Buffalo. White and his assistants speedily made duplicates of the mold, and the same year moved to New York. In 1825 one William M. Johnson persuaded White to experiment with a machine to cast type singly. This machine was the first that got on the right track, but it never proved a complete success, although it was used until Bruce's machine superseded it. White was the first to make and sell machine-cast type. Its defect was lack of solidity, weighing about fifteen per cent less than hand-cast. It was so porous that particles of metal fell from the types as they were lifted. Making a virtue of necessity, White advertised this lightness as a merit, "giving the purchasers more for their money." The present corporation of A. D. Farmer & Son Company, better known as Farmer, Little & Co. (1861), is the direct successor of Elihu White, following a son, H. T. White, and then Charles T. White & Co.

In 1817 Elihu White sent Oliver Wells to start a branch foundry in Cincinnati, which eventually incorporated as the Cincinnati Type Foundry, the first in the West. Oliver Wells was succeeded by his son Horace, and Horace by his son Charles, who died in 1885, when Henry Barth, who had been identified with the concern for many years, took the management, which he still retains under the present owner, the American Type Founders Company, of which he is a director. Henry Barth is a distinguished mechanic of inventive genius, and the originator of the first thoroughly successful automatic typecasting machine, on which more than half of the American type product is now cast. The Cincinnati Type Foundry not only made the first type in the West, but all the first type cases and stands and printers' wood goods and galleys, and the first hand, job and cylinder presses. Many printers will remember the Wells jobbers and cylinders, and their hand press with the bed rolling on wheels (a belated invention that would have made a hit in the days prior to the invention of the cylinder press), and the Army Press which was designed for use in armies in the field.

This excellent and successful foundry was in its day the most complete manufacturer of printers' requirements in America. Oliver Wells was a fine all-around mechanic, and so was his son, and Henry Barth kept up the high standard of originality and thoroughness. The Wells were descendants of Thomas Wells, the royal governor of Connecticut, who arrived in 1636, and Lincoln's Secretary of the Navy, Gideon Wells, and Darius Wells, the inventor of wood type and the routing machine, of whose great services to printers more will be said in another article, belonging to the same family. In 1832 White started a letter foundry in Albany, under the management of Nathan Lyman, and moved it to Buffalo in 1835. It was known as the Buffalo Type Foundry, and Lyman became the owner. He died in 1873, leaving the business to a son, who sold it to the American Type Founders Company in 1892, at which time type ceased to be made in Buffalo. Edwin Starr, with a brother, started a letter foundry in Pittsburg in 1820, but it was short-lived. Elihu White

was not in any way interested in Starr's venture in typefounding.

The next letter foundry of importance to be established was that of David and George Bruce, two printers from Scotland, who to their printing business in New York added the first successful stereotype foundry in the new world in 1812. Failing to persuade the typefounders to cast type with deep counters to favor the stereotype matrices, typefounders of that period viewing plate-making with suspicion as being likely to decrease the demand for type, the Bruces started in 1813 to make their own type. David Bruce invented the metal-shaving machine now used by electrotypers and stereotypers, superseding the inaccurate and slow turning lathe, thus enabling stereotypers to make plates flat and accurate in height; and he also invented the mahogany stereotype blocks ever since used for securing flat plates on printing-presses. The Bruces first abandoned printing, then stereotyping, for letter founding and had phenomenal success. David retired to his New Jersey farm in 1822. His son, David, Jr., learned the printing trade and then typefounding with his uncle, and in 1838 invented the first successful typecasting machine, greatly improving it in 1843, which speedily superseded hand-casting all over the world. George Bruce, like his brother, was a self-taught typemaker, but he built up one of the greatest and best letter foundries of his time, famous for the beauty and quality of its romans, its progressiveness and thoroughness. George Bruce was a famous punchcutter, and the finest series of script (from a technical view) ever cut is the work of his hands. When his prospering business and wise investments in real estate had made him the wealthiest typefounder in history, he still found his chief pleasure in improving his type-faces and adding new faces with his own adept hands. When setting up the first specimen of Bruce's canon script the printer used the phrase, "These Plain Capitals for this Canon Copperplate Script are unequalled in Elegance by any Other Font of Writing Script." When the veteran typefounder saw this he wrote under the specimen, after marking it approved, "Oh, will truth excuse such vanity!" and the printer, taking this for new copy, added and printed the line, and so it was sent forth to the customers. David and his son and George Bruce were splendid men. George died in 1866, aged 85, and was succeeded by his son, David Wolfe Bruce, under whose control the business dwindled away. At his death he bequeathed it to three old employees, and they soon

RESTING-PLACES AT THE HOME.

disposed of it to the present owners. The firm names, successively, have been D. & G. Bruce, George Bruce & Company, George Bruce's Son & Company, and The Bruce Type Foundry. Theodore L. DeVinne printed a specimen book for David W. Bruce that is unique in so far that the whole of DeVinne's "History of Printing" is embodied in it, set so as to show all the sizes of all the series of body letter made by the foundry. Its pages are all printed on one side of the sheet only, but so folded that the blank pages are not visible. Those who possess this book should preserve it, for as time passes it will increase in value both on account of its merits as a specimen book and as a curiosity of typefounding enterprise.

Three other foundries established in the thirties of the last century remain to be noticed. Two of them, like Bruce's, developed from stereotyping businesses — the Boston Type Foundry and James Conner. The third was established in Boston in 1839 by Samuel Nelson Dickinson, born in Phelps, New York, 1801, and trained as a printer in Geneva, New York. He started a printing business in Boston in 1828. Miller & Richard of Edinburgh having accepted a design of his for a roman series, he was induced by that success to commence letter founding. His body fonts were much admired, and they established a reputation for the Dickinson Type Foundery which it has maintained to this day. Dickinson died in 1848, and his foundry was carried on by Michael Dalton and Sewell Phelps under the name of Phelps, Dalton & Co. Michael Dalton was a thorough typefounder and learned his trade in the Boston Type Foundry, of which Sewell Phelps, a printer, had been manager. Phelps died in 1864, aged 66, and the same year Dalton sold his interest, aspiring to *otium cum dignitate*, which he achieved, dying in 1879, aged 77, high in the respect of a community which had praised the same good qualities in Phelps. Both were born Bostonians. In 1892, still under the name of Phelps, Dalton & Co., it became a part of the American Type Founders Company. The Boston Type Foundry was a coöperative concern, the stock owned by the workmen. The manager was elected, and called "the agent." Succumbing to the fate of all coöperative concerns, the weak-kneed sold out, and one man secured a controlling interest, and elected himself agent. The first agent was Gorham Rogers, and he was succeeded by his nephew, John Kimball Rogers, a man of dignity, probity and education, who died in 1888, aged sixty-seven years. The Boston was one of the best American foundries, distinguished for quality and accuracy, and several men who achieved fame in other foundries found it an admirable school. In the seventies it established a branch in St. Louis, which later on became world-famous as the Central Type Foundry. Two of its employees, Bailey and Gilbert, started the New England Type Foundry, which had a brief existence. When it was styled the Boston Type Foundry its foreman was James Conner, who saved the money he earned in that capacity, and in 1827 returned to New York, where he did things which the limits of this article compel us to defer the narration of until next month.

With the mention of foundries of minor importance, all of which have disappeared, such as Lothian's, Hagar's, Cortelyou's (grandfather of the present postmaster-general), all of New York; Allison & Smith's Franklin Type Foundry, of Cincinnati, Charles Smith being the practical typefounder and a brother of Richard and John F. Smith of MacKellar, Smiths & Jordan; John Ryan, of Baltimore, and Collins & McLeester, and Pelouze of Philadelphia, all the letter foundries of the time prior to the civil war have been put on the canvas, and our next article will give the histories of Conner's United States Type Foundry and of the Johnson Type Foundry, which under the control of Thomas MacKellar, the "grand old man" of the type industry, and the two Smiths, became the premier letter foundry of the world and added luster to the fame of these United States.

(To be continued.)

FRENCH RULES FOR ABBREVIATING METRIC SIGNS.

The French minister of public instruction has decided that all teachers throughout France are in future to employ the following distinctive abbreviations for the various weights and measures: For denoting length — myriamètre, Mm.; kilomètre, Km.; hectomètre, Hm.; décamètre, dam.; mètre, m.; décimètre, dm.; centimètre, Cm., and millimètre, mm. For areas — hectare, ha.; are, a., and centiare, ca. or m^2. For measures of bulk (timber), décastère, das.; stère, s. or m^3., and décistère, ds. For measures of mass and weight — tonne, t.; quintal métrique, q.; kilogramme, kg.; hectogramme, hg.; décagramme, dag.; gramme, g.; décigramme, dg.; centigramme, cg., and milligramme, mg. For measures of capacity — kilolitre, kl.; hectolitre, hl.; décalitre, dal.; litre, l.; décilitre, dl.; centilitre, cl., and millilitre, ml. The use of the capital letters for the three largest denominations of length are intended to prevent confusion, and all the other abbreviations follow on uniform lines. The employment of full stops between the letters is officially abolished, and k. g. for kilogramme and m. m. for millimetre disappear.— *Consular Reports.*

NOW!

Get busy! To-day, not to-morrow, is the accepted time. If you would be a success, be one. No one is stopping you. Your hands and feet are not tied. You need not wait till some one drives up in a 40-horse-power automobile and invites you to ride with him to fame and glory. Hard work and a little common sense will do the trick. Get busy.— *Our Companion.*