



# Newsletter

*American Typewriting Fellowship*

42



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This *American Typecasting Fellowship Newsletter* has been published *occasionally* since 1978 for the American Typecasting Fellowship, an informal group of hot metal typesetting and linecasting enthusiasts, by Richard L. Hopkins, 169 Oak Grove Road, Terra Alta, West Virginia 26764. You may be added to the mailing list by sending \$20.00 U. S. to the editor. Overseas recipients please send \$40.00 U. S. currency. Cost per issue is stated at \$10.00 for mailing in the U. S. and Canada, \$20.00 elsewhere. (Costs subject to increases in postal rates.)

*This page has been Monotype composed and letterpress printed direct from the type*



# ATF Newsletter

Number 42

January 2018

## San Francisco Conference Aug. 24-26, 2018

Brian Ferret at M&H Type in San Francisco reports that the dates for our 40th Anniversary Conference are tentatively set for August 24-26, 2018, at M&H's wonderful plant, located at El Presidio in San Francisco.

To minimize "running around," nearly all functions of the Conference will be held at M&H's marvelous facility, including all lectures, plant tours, the open house, the swap meet and the auction.

Brian reports that negotiations still are underway and that at present, a host hotel has not been selected.

M&H (Mackenzie & Harris) is the oldest and largest letterpress type foundry in the U.S., dating from the 1915 Panama Pacific International Exposition. Designated an "irreplaceable cultural treasure" by the National Trust for Historic Preservation, Mackenzie & Harris was established with demonstration Monotype machines from the Panama Pacific International Exposition's Palace of Machinery. These have been preserved as part of the historic foundry, still in operation on a full-time basis, where handset and composition "hot metal" type is manufactured for the Arion Press and other letterpress customers.

M&H Type is associated with Arion Press, fine printers and publishers of deluxe limited-edition books, and the Grabhorn Institute, which sponsors tours and educational and apprenticeship opportunities. All share the premises of a handsome 1928 industrial building in the Presidio National Park of San Francisco. The facility, though centrally located in the city, retains a more relaxed atmosphere and includes adequate and easily accessed parking facilities.

Brian reports "we are currently talking to the Letterform Archive, San Francisco Public Library Grabhorn Collection and others for Friday field trips, much like at the Wells College ATF meeting. People seemed to like the option of bouncing around and seeing different things at their own pace on the first day."

Plans for the meeting seem to be following the form of previous ATF Conferences, with a free day on Friday, August 24 (with several recommended sites to visit), followed by an open house that evening. Saturday will be a day stuffed full of lectures or demonstrations in the morning, followed by a swap meet and auction in the afternoon, capped off by a gala banquet that evening.

Sundays generally feature a return to an open house, perhaps a very brief "official meeting" to select the site for the 2020 Conference, and customary farewells and departures.

Brian indicates that technical sessions definitely will be arranged to coincide with the Conference, with demonstrations and sessions utilizing Monotype Comp Casters, the Supercaster, the Keyboard, the Welliver Interface, the Giant Caster, and perhaps other implements found in the M&H plant. There are tentative plans for technical sessions, but it is not yet established whether these sessions will precede or follow the Conference itself.

If you are willing to make a presentation, want to offer your services at the technical sessions, or have other special interests or concerns, please contact Brian at <mandhtype@arionpress.com>.

Our first meeting (before ATF was named or "organized") was at Terra Alta, West Virginia, July 17-19, 1978.



## ComposiType: The Success of a Failed Machine

By DR. DAVID M. MACMILLAN  
Mineral Point, Wisconsin

It is easy to overlook an unsuccessful machine, and by any standard commercial measure the ComposiType was unsuccessful. It was produced for less than a decade. Few machines were sold, and none survive. Even while it was in production, some contemporary reviews spoke critically of it. Yet it deserves to be remembered and held in higher esteem.

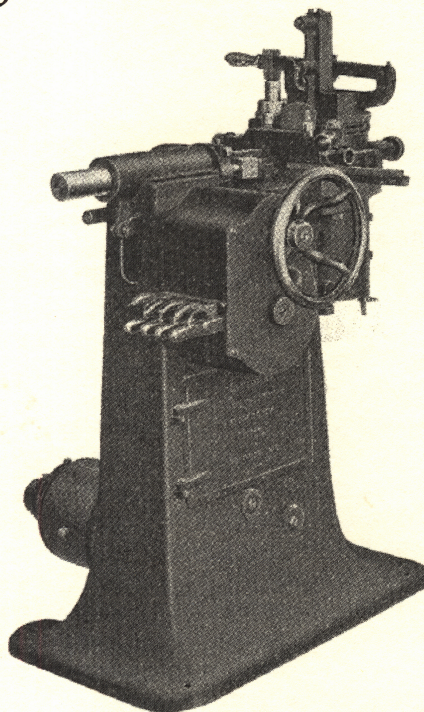
It worked (not all inventions do). It pioneered the development of both the machines and the matrices that enabled independent typefounding in the 20th century and which remain at the center of typefounding today. Its developers had a vision of a different process for type design and type casting which resonates strongly with the "private typefounding" movement and the American Typecasting Fellowship.

Of the three who developed the ComposiType, only one was a typefounder: John E. Hanrahan. He joined the Ryan type foundry in 1872 at the age of 13. Two years later he moved to the foundry's matrix making department. About this time the Ryan foundry burned down, so Hanrahan was able to develop as a matrix maker as the plant and his department rebuilt. As a type designer and engraver, he worked entirely as a matrix cutter in soft metal and became a strong proponent of the capabilities of electroformed matrices. By 1880 he had become superintendent of the entire foundry. In 1887, just prior to John Ryan's death, he became a stockholder and took a seat on the board. He stayed with the foundry after it became part of ATF in 1892, managing what became the ATF Baltimore foundry. He left ATF in 1899, well liked by all, to pursue a "related business."



John E. Hanrahan

The date of 1899 is generally quoted for the ComposiType, because that's what John S. Thompson assumed in his 1904 *History of Composing Machines*. But things were not so simple. In 1899, Hanrahan, Frank Howarth Brown (who later worked on the ComposiType), and a third inventor filed a patent for an elaborate type composing machine that would set foundry types, justify them, print a reproduction proof, and distribute the types. This machine was assigned to the American Planograph company, a firm controlled by James Ogilvie Clephane



(the early backer of the Linotype) which owned the rights to the later inventions of Charles T. Moore (as Rich Hopkins has said, "his ideas got Mergenthaler started.") This machine came to nothing. But in 1901, Hanrahan and Brown (and maybe their third

*they were working  
instead on a "type  
making" machine*

partner, engineer George A. Boyden) formed the National ComposiType Company. We do not know what they were working on in 1901. Given

the name, however, it is reasonable to assume that it was a composing machine. But by 1902 they were working instead on a "type making" machine, and in 1903 the basic patent for their "sorts caster" was filed. Interestingly, none of the three principals ever called it the "ComposiType." It was the "Automatic Type Machine," manufactured by the National ComposiType Company.

A type casting machine is a complicated precision product. Developing a new one from scratch, especially one as novel as this, is ambitious. Hanrahan, Brown and Boyden created what would be called today a high-tech startup company. The patent for the caster was filed in January 1903, but it was not until 1904 that the machine was offered for sale, and serious promotion didn't begin until 1905.



By that time they were on their third model of the machine. If you've ever been involved as a principal in a high-tech startup, you can look at the bare numbers and see behind them the trials and frustrations, great hopes and lost sleep, of creating a new kind of machine. Their problems were just starting.

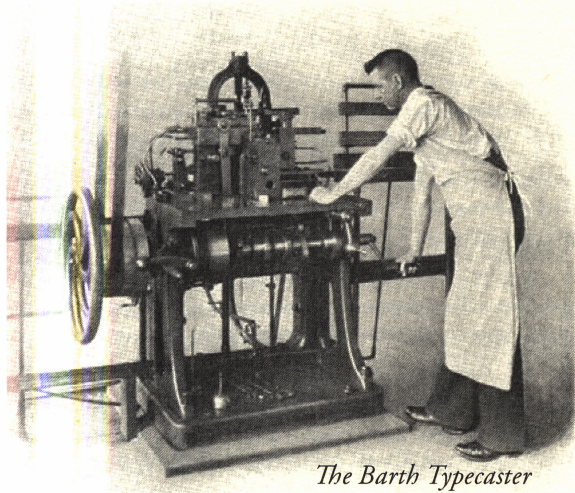
In November 1903, the same month that the first photograph of what was labeled the "Brown Compositype" appeared, the Lanston Monotype Machine Company began offering a sorts casting attachment for the Monotype caster. This was not the equipment we have come to know with the Type-&-Rule Caster, but an early version using rectangular matrices and an extra spring on the pump. It shows every sign of having been rushed to market to preempt the threat of the Compositype.

In 1905 the "Automatic Type Machine," was being strongly promoted by the United Printing Machinery Company (UPMC) as sole selling agents. This was a newly formed sales company which employed a well-known figure: Henry Lewis Bullen. Bullen also sat on the board of the Compositype company. Then, in September 1905, Bullen embezzled UPMC and fled. Pursued by Pinkerton detectives, he was finally arrested with a ticket to Honolulu in his pocket (Hawaii was not then a state). He pled guilty and was sentenced to ten years in jail (reduced to two for good behavior). This episode can't have helped.



Frank H. Brown

**in September 1905, Bullen  
embezzled UPMC**



The Barth Typecaster

In September 1906 Frank Howarth Brown died at the age of 37 of tuberculosis (the same disease that took Ottmar Mergenthaler at age 45). Two days after Christmas 1906, an early backer of the company, Baltimore banker Edward H. Thomson (no relation to John S. Thompson) died of "acute indigestion."

By 1907, the National Compositype Company was overdue on loans to cover payroll and proposed to reorganize itself into the Baltimore Compositype Company, with an emphasis upon the value of its matrix library. Only 96 machines were in service, but they had spent over \$250,000. They also dropped UPMC (which was by then in trouble) and began direct sales. But 1907 also saw introduction of two more competitors: The Thompson Type Caster and the Nuernberger-Rettig. By 1909 an article in *The Inland Printer* reported that Compositype's "factory in Baltimore has not been in operation for the past few years." In 1911, its equipment was sold at auction for the receiver. The matrix library does not seem to have been included in the auction; it was acquired by the Nuernberger-Rettig's company in 1914.

Hanrahan continued with a new invention in 1910/1913: an attachment to the Linotype which allowed it to cast display type from flat mats at the same time it was casting slugline composition. This was promoted as the "Ad-Atype," but it didn't catch on. He died in 1919 at the young age of 59.

### *So much for the failure.*

### *Where is the success?*

First, it is necessary to take stock of the state of typecasting machinery at the turn of the 20th century. The pivotal type caster had been successful since its introduction by Bruce in the 1840s. But it produced type which was not finished and which required significant additional work, both unskilled (jet breaking, rubbing) and skilled (dressing). Various "automatic" casters which produced finished type had been developed. In particular, the Foucher of 1878 in France became the first really successful machine of this kind. Its American derivative, the Barth, became the mainstay of heavy production at ATF. (A Barth is, in simplest terms, a Foucher plus a choker valve, built to impressively robust standards.)

But both the pivots and the early "automatics" were machines requiring skilled operation which were intended for large-scale commercial type foundries. There were no machines which were suitable for small shop use by untrained operators which also produced *finished type*.

**"Every Printer His  
Own Typefounder."**

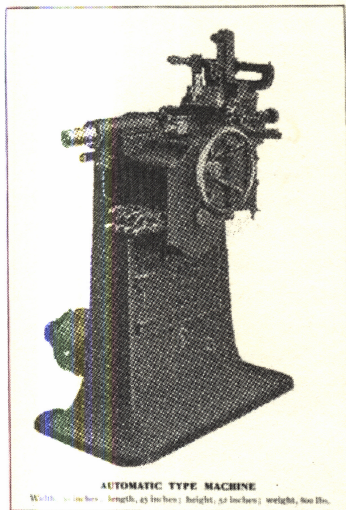


# Another Revolution!

Every Printer His Own Typefounder

## AUTOMATIC TYPE MACHINE AND SORT CASTER

**A** MACHINE at a moderate price, requiring no skill not possessed by an average compositor, that makes the printer *absolutely* independent of the typefounder,



**AUTOMATIC TYPE MACHINE**  
Width, 45 inches; length, 45 inches; height, 52 inches; weight, 500 lbs.

and reduces the cost of all type, body or job, quads and spaces, borders, etc., to under 15 cents per pound, including cost of metal.

A machine embodying mechanical principles not found in any other typesetting machine, and on which *generic* patents have been allowed. A perfected machine, the result of four years of constant and expensive labor and tests, and now *guaranteed* to make at one operation finished type and spaces, and quads, with *accuracy in body, height, set and line equal to that of the best product of the typefoundries.*

With this machine there has been developed a method of matrix making which reduces the cost of matrices to the printer to one-tenth of the actual cost of matrices to the typefounder. There are fonts of matrices now ready for over 250 sizes and styles of type. Additions are made every day. There is no

type face from 6 to 36 point, inclusive, for which matrices can not be furnished. *A set or font of matrices will cost less than a decent sized font of type, and from this the printer can cast thousands of pounds, if he desires to do so. Those who prefer to do so, can rent fonts of matrices at a small daily rental.*

*Inland Printer, March 1905*

The Compositype was not intended to be just another typefounder's casting machine. Their first *Inland Printer* ad of 1905 announced their original intention: "Every Printer His Own Typefounder." It claimed the "policy determined upon is to put this great instrument of economy and convenience in the hands of the printers." This marketing decision had technical implications.

First, because printers are not trained typefounders, it meant that the machine had to be simple enough to be run by an untrained operator who could not be expected to do things such as check trial casts for set and alignment. The operator had to be an unskilled laborer, as a printer could not afford to employ a full-time skilled casterman.

Second, a professional typefounder could be expected to have many machines and could economically devote individual machines to a particular size (or a small range of sizes) of type. The Barth, for example, was made in at least twelve sizes. Each could accommodate a range of mold sizes and styles, but it

was ATF's policy to equip each machine permanently with one mold. This would never do for the printer purchasing a single machine. So the Compositype had to be designed to produce type over a broader range of sizes than other "automatic" casters.

These requirements are familiar to the practical typefounder today, but they were new then. Compositype paved the way first for the sorts casting equipments added to the Monotype and then for the Thompson and the Nuernberger-Rettig.

So the first success of the Compositype was that it worked at all. It was a new machine, intended for a new market, and constrained by new and demanding design requirements which had not before been encountered by makers of typesetting machinery. That it went from conception to production in about three years is impressive.

Its second success was the development of the technology to mass-produce electroformed matrices, especially in display sizes. The Compositype company created the first process for this. In turn, electroformed mats became the basis for independent typefounding in the 20th century.

Conventional histories of type have ignored this. The role of patrix engraving (cutting "pattern types" in soft metal, first by hand and then by pantographic engraving machine) has been systematically suppressed in the histories of type written in America and England. (In part this was no doubt because the technology could also be used for pirating type. But it may also have been because most histories were written or sponsored by companies who used steel punches (Mergenthaler Linotype, English Monotype) or directly engraved matrices (ATF).

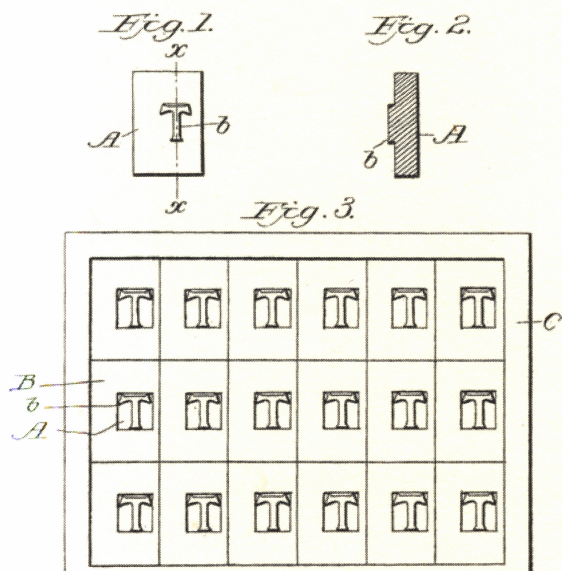
*Its second success was the development of the technology to mass-produce electroformed matrices*

Outside of America and England, by way of contrast, patrix cutting has always been one of the standard methods of making type. It is becoming increasingly clear that after 1845 patrix engraving and matrix electroforming was a common method in all type body sizes, and was in fact the dominant method of producing display types. Hanrahan, at the Ryan foundry, specialized in this.

Traditional typefounders need only one matrix for each sort. They sell type, not matrices. Machine makers such as Compositype must mass produce matrices for their customers. They sell matrices, not type.

Hanrahan had an early experience with this, because he is reported to have made the first matrices for Ottmar





*Patent for a Master-Block of Patrices for mass-producing electroformed matrices*

Mergenthaler. As we know from Carl Schlesinger's research, these would have been the electroformed matrices used in the first six months of the use of the "Blower" Linotype in 1886. Linotype soon changed to using machine-cut steel punches to make its matrices, but until much later this technology was only capable of text sizes (the Model 1 Linotype, not superseded until 1902, could only go up to 11 point). Punched matrices in display sizes did not appear until much later.

The Compositype required display sizes up to 36 point in 1903. Hanrahan accomplished this with specialized fixtures and processes for mass-producing electroformed matrices from multiple patrices. Seven of the sixteen Compositype patents are for matrix making.

Two of these patents are worth a special look. US patent 854,460 (filed 1904) claims the provision of gaging surfaces (matrix edges, in practice) for establishing head bearing and side bearing. Patent 845,684 (filed 1905) goes further and claims the very idea of head (tail, actually) and side bearing: matrices with "the character... being situated... at the same predetermined measurement from one vertical edge and the bottom edge."

On the one hand, these two patents were probably unenforceable—

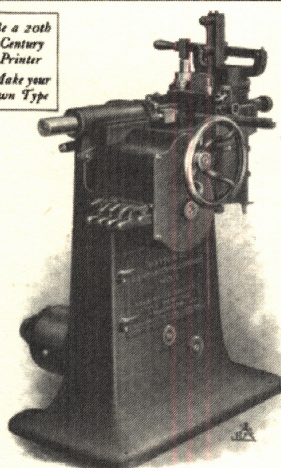
every matrix justifier since Gutenberg would have objected to them. On the other hand, allowing for an excess of enthusiasm, they emphasize the degree to which the Compositype was intended to be used not by typefounders, but by printers who would be unwilling to make fiddly adjustments for alignment.

So successful was Compositype in its type design and matrix making that after the company was in receivership there was a fight over its matrix library. Nuernberger-Rettig (Universal) bought the main matrix library, masters, and official rights from the receiver. Thompson bought the second matrix library. Both, for a time, claimed to have "the" Compositype library available to their customers.

The third success of the machine was, at the time, probably the cause of its failure: it was sold directly to printers. Indeed, it was offered on more attractive terms to any customer who would agree in writing only to use the type cast on it, not to sell that type. The reason for the failure here is perhaps obvious. Printing and typesetting are very different occupations, and in reality few printers want to be typecasters. But this idea, "Every Printer His Own Typefounder," generated two successes which cannot have been anticipated by Hanrahan, Brown and Boyden. First, the idea caught on, if only for a while. This gave us three machines which became the mainstays of independent typefounding: the Thompson Type-Caster, the Nuernberger-Rettig, and the Monotype Type-&-Rule caster. Second, while most printers

## FAME OF THE EARLY PRINTERS

Be a 20th  
Century  
Printer  
Make your  
own Type



AUTOMATIC TYPE MACHINE

**I**N the beginning of typography the fame of the printer was established by the design of the type he made and used. In our era Morris successfully revived the ancient practice of designing, making, and using exclusive type faces; and he became famous.

The type founders' opposing interests and the high cost of punches and matrices have discouraged that individuality which alone can make a printer truly famous and give his works a unique value.

Now comes the National Compositype Company with its Automatic Type Machine, sold at a moderate price, to cast type at an hitherto unheard-of low price, and (better) furnish matrices of exclusive type faces designed and owned exclusively by the printer at prices less than ten per cent of the cost of a matrix to the type founder.

*The twentieth century printer, like the fifteenth century printer, will cast all his own type. If he desires fame, he will design his own type.*

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don't want to be typesetters, some do. In the late 20th century, those printers who wanted all of the advantages of in-house typesetting promised by the Compositype banded together to form the American Typesetting Fellowship.

The final point of success for the machine is, I will admit, stretching the argument a little. But it's worth thinking about. The Compositype was conceived at the height of the influence of William Morris on the private press movement in Europe and America. Morris designed his own types, had them made and cast for him, and used them to print his own books. His influence transformed type and design in the 1890s and early 20th century, but few printers could follow his complete path from typeface design to ink on the page. The Compositype offered this path.

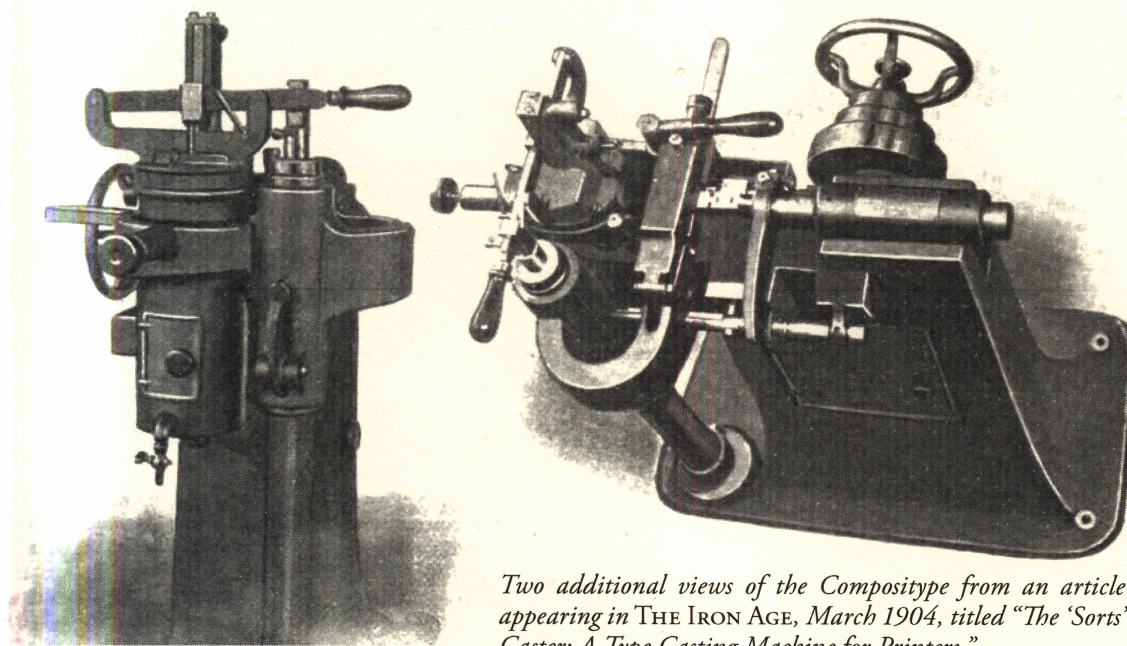
This 1905 advertisement in *The Printing Art*, made the connection explicit (see previous page).

We'll never know if this was really what Hanrahan intended, or if this was nothing more than the

work of an ingenious copywriter (perhaps even Bullen, a month before he cleaned out the UPMC bank account and skipped town). Nor is there any record that any printer actually designed a face and had Compositype make it. But later printers such as Jim Rimmer and Paul Hayden Duensing did design and make their own types, and cast them on machines such as the Thompson which owe their origins to the pioneering efforts of the Compositype.

The National Compositype Company failed completely. But what Hanrahan and his colleagues were trying to do looks a lot like what we in ATF are doing today. If they hadn't tried, if they hadn't broken the first trails into typesetting by printers, mass-produced electroformed matrices, and type designed by its users, we wouldn't be able to adapt the motto from their August 1905 ad:

**Be a 21st century printer.  
Make your own type.**



*Two additional views of the Compositype from an article appearing in THE IRON AGE, March 1904, titled "The 'Sorts' Caster: A Type Casting Machine for Printers."*

Note: A more detailed study of the Compositype, including all references and sources omitted here because of lack of space, will be published on the author's website one month after the release of this ATF Newsletter. See:

<<http://www.CircuitousRoot.com/artifice/letters/press/noncomptype/casters/compositype/index.html>>

Principal references include the article "The Sorts Caster: A Type Casting Machine for Printers" from *The Iron Age* (March 1904), contemporary trade notices and

advertisements from *The Inland Printer* and *The Printing Art*, William Loy's article on Hanrahan in his series "Designers and Engravers of Type" in *The Inland Printer* (Oct. 1899), Mallinson's 1976 doctoral dissertation at Columbia on Henry Lewis Bullen, and the Compositype patents. Additionally, this article would not have been possible without the 21st century ability to search digitally through "boring" references such as old city directories, compilations of legislative acts, and specialist journals of the financial industry.