ATF Newsletter 33

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The *ATF Newsletter* is published *occasionally* for enthusiasts of hot metal typecasting and linecasting by Richard L. Hopkins, 169 Oak Grove Road, Terra Alta, West Virginia 26764. You may become a subscriber by sending $20.00 U. S., which will entitle you to two future issues, each assessed at $10.00 for U. S. and Canadian subscribers. All other subscribers are urged to send $30.00 U. S., with issues assessed at $15.00 each (the higher rate is to offset additional postage and handling charges).

This is the most unique issue ever with regard to production techniques utilized. The cover is printed in 11 colors *via letterpress* utilizing tint blocks cut for the purpose by Jim Rimmer. Presswork and ink mixing were done by the editor. A 10x15 Heidelberg was used. The center spread also was done on the Heidelberg utilizing ornaments cast for the purpose, following a design derived by Ethan Lipton of Venice, Calif., and Rich Hopkins. The remainder of the volume was printed either via offset or utilizing the latest *color laser printer* system called the Xerox Work Center 7425. The Xerox prints a great image but lacks a lot in image positioning on the paper. Excluding the Monotype-composed and letterpress-printed covers and the centerfold, all composition was done on Rich's laptop PC utilizing InDesign cs3, Photoshop cs3, and Garamond Premier Pro Open Type fonts from Adobe.

ATF Newsletter

NUMBER 33 OCTOBER, 2009

Ohio Meeting Set for June 24-27, 2010

The next ATF Conference will be held in Piqua, Ohio, June 24-27, 2010. This next meeting will feature a new twist on technical sessions with introductory workshops scheduled before the Conference and expert workshops after the Conference.

Greg Walters, who is coordinating the 2010 event, explains the "introductory workshop" as being "a couple of days demonstrating a number of machines and allowing participants to take a turn at casting type. The early workshops would be aimed at people who don't own hot metal machines, but who would like to learn more about them. "I would be particularly pleased if some of the book arts program teachers would attend," Greg explains.

He continues:"I envision the Conference itself featuring both lecture-hall time and casting-hall time. For example, I've asked Bill Welliver to give a presentation on his computer interface for the Composition Caster. With any luck, we'll end that day in the casting hall where we will watch Bill's interface in action. I also plan to demonstrate the making of electrodeposited matrices. On the first day, we'll build a form or two and put them into the bath. We'll note the growth for a couple of days. Then we'll pull apart some fully grown forms and finish the mats, and cast type from them. I've got lots of ideas, but I'm also eager to hear your ideas."

Following the Conference, several days of workshops are planned. Expert operators will demonstrate the maintenance and adjustment of the more common typecasters. Additionally, it might be possible to have a basic class covering operation.

"For planning and publicity, I plan to make much use of the Internet, so if you are interested in the Conference, please send your email address to me at: desoto1956@hotmail.com, he asks. "As plans are finalized, I'll create web pages and send email notices announcing the pages. In addition to posting the usual information about schedules, hotel, and transportation, I'd like to include pages for folks wishing to find a roommate, or wishing to share a rental car," Greg explains.

"Everything is in the early planning stages now, but I hope to have a lot of plans finalized about six months before the event. In the meantime, block out the dates on your calendar and let me know of your interest," Greg notes.

Mobile Typefoundry Demonstrated at APA Wayzgoose

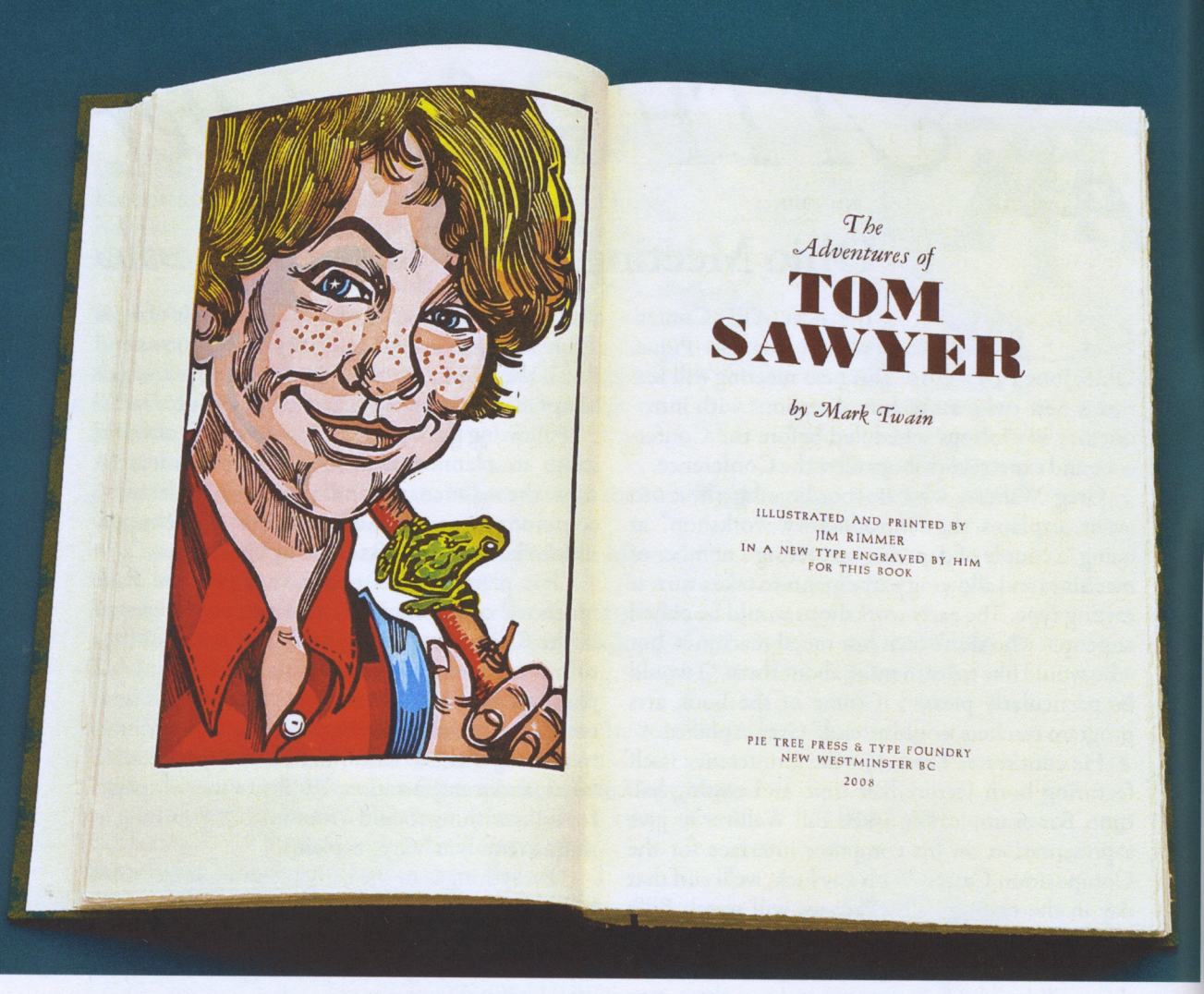
A surprising feature of the Amalgamated Printers Association Wayzgoose, just completed September 20, 2009, at Mt. Pleasant, Iowa, was the appearance of the Skyline Type Typefoundry. Sky Shipley and his wife Johanna brought with them not only a good inventory of cast type fonts, but a complete Thompson caster and all the paraphernalia necessary to run the machine.

Throughout the meeting, attended by nearly 150 people, Sky and select assistants kept the caster running and completed casting several fonts of Hadriano Stonecut; these fonts were available for purchase before attendees left the meeting.

The machine in use was one which was completely rebuilt and refurbished by Sky over the past several years. It performed flawlessly. Two weeks earlier at the Midwest Old Thrashers Reunion, a gala event attended each year by thousands of persons at Mt. Pleasant, Sky had also done demonstrations of his equipment for hundreds of interested persons. His foundry was set up adjacent to the magnificent Printers Hall, part of the extensive Old Thrashers facility. "Did you have any squirts?" he was asked. "Not a single one," Sky joyfully reported.

Several persons attending the APA meeting indicated they had never before seen a typecasting machine, much less seen one in operation. The caster was solidly mounted on a custom-built skid which made the machine easier to transport, and also gave it greater height for ease of operation.

Skyline Type Foundry is located at Kampsville, Illinois, several miles away from the Iowa location; Skyline was host to our 2008 American Typecasting Fellowship meeting (details of that meeting will be found starting on page 7 of this issue).



A Private Press Achievement of Greatest Proportions

The Adventures of Tom Sawyer is a stellar accomplishment in the very productive life of the Pie Tree Press and Type Foundry, operated by Jim Rimmer of Vancover, B. C., Canada. Over six years in the making, Jim has tapped all his amazing creative resources in putting together this truly unique and very handsome volume of an American Classic—surely a volume which Mark Twain himself would have embraced and treasured.

Virtually every person who ever had visions of owning a press also has had visions of producing his own book. But rarely do any of us accomplish such a goal. Jim Rimmer's stunning accomplishment seems to have overcome a host of obstacles any one of which would have stopped a lesser-driven soul. For example, he wisely observed that he would need a very strong, sturdy press to give him the necessary rigidity to deliver an even impression over his huge 10½"x14¾" page size, and for that he looked back into history and became intrigued with the Colt's Armory Press. He considered himself fortunate to find one.

An equipment dealer in Northern California said it was in good shape, but when Jim arrived to pick it up, he discovered it had been stored outside for many years, and was so rusted that it was locked shut. "The press was in such bad shape and had so many missing and broken parts that I had to buy a small lathe so that I could make up the parts. Two were cast iron, so I had to make wooden foundry patterns, have them cast and then machine them here. The man who sold me the press doesn't have much credibility in my book. He should be ashamed of himself. Anyway, the

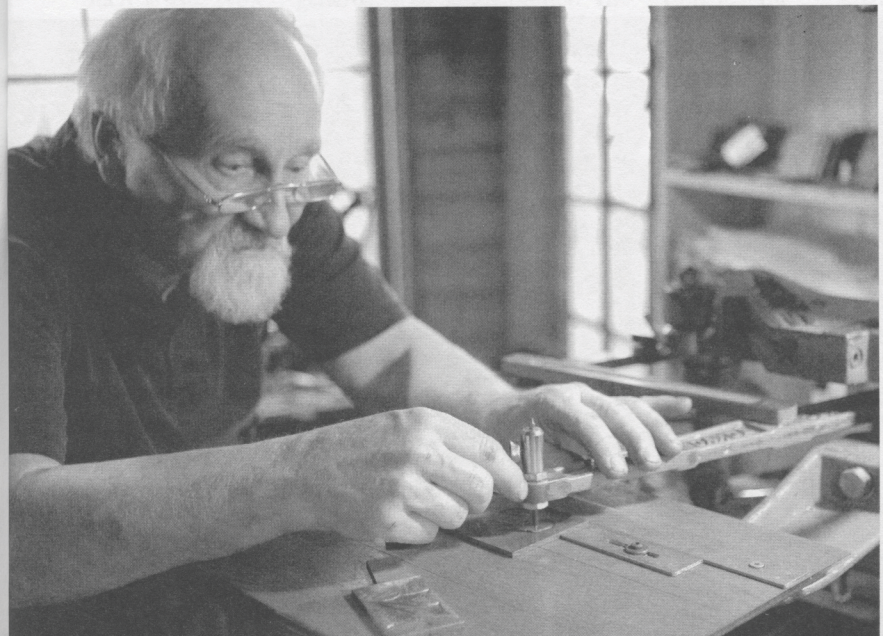
work was worth it, and in any case, I had so much invested in the purchase and the moving costs that I almost had no choice. And on top of that I have a just plain cussed nature!"

He knew what he was seeking and though sent on an terrible detour, the restored press delivered a firm, even impression unequaled by any other press and certainly a splendid selection for *Tom Sawyer*. The edition is printed on Arches white 200 gsm with deckled foreedge and foot.

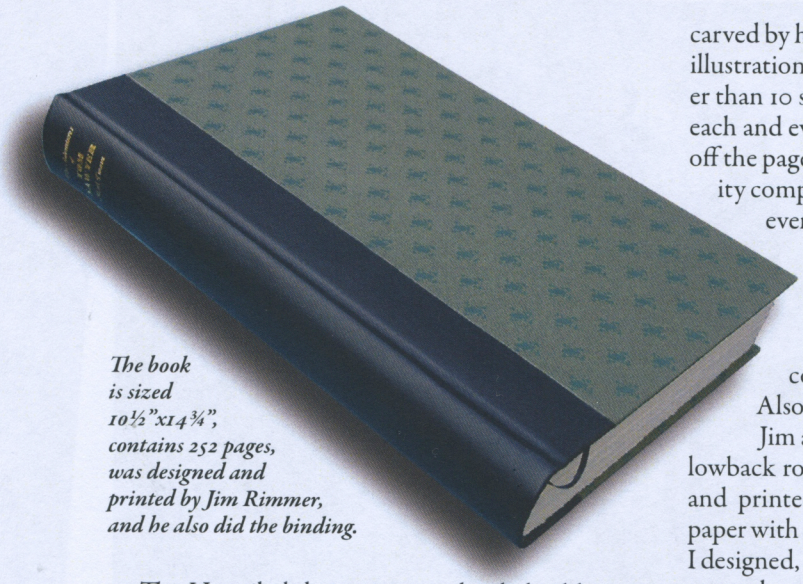
Found rusted shut in an open farm field, Jim knew the potential of the Colt's Armory Press and completely refurbished the machine, including making and machining several missing parts; Jim knew the press could deliver the strong, even impresssion needed for Tom Sawyer.

Perhaps you have heard that Jim also is a typefounder and a type designer. And perhaps it is not unusual for a person to opt to use his own design in the setting of a book. But in Jim's case, he took the creation of his face, Hannibal Oldstyle, one *major step* further. After all, the book was to end up consuming 252 pages and hand composition would take forever. So Jim literally reinvented the wheel by engraving his own masters, and electrodepositing his own large composition matrices and working out all the overwhelming technical difficulties and mastering the absolutely necessary precision involved in every step of the process of making composition matrices (keep in mind he also had to create a matrix case layout, adapt a necessary wedge, and assemble proprietary keybars so that he could keyboard and then cast the entire document). Perhaps in the long run, he would have been better off hand-setting the work, for reviving all the lost arts of Monotype matrix making (such commercial enterprises ended decades ago) surely consumed many months of the six and one half years of production time consumed in making this volume. (Whoever said Jim took the easy way out?)

Jim Rimmer executes the slow process of following his pattern using a pantographic engraver to create matrices of his Hannibal *type design.* Photos by Ryan Mah.



All such considerations are technical and mechanical, demanding mastery of lathes, drill-presses, electrodepositing tanks, pantographs, milling machines, and many other devices too. "All in a day's work," Jim would say as he took on and mastered one task after another. But it must be stated here that above all else, *Tom Sawyer* is an artistic book. His mastery of all these crafts is to such a degree that they have remained transparent and the artist himself is as visible in every page as a major fireworks display on the fourth of July!



The book is sized 10½"x14¾", contains 252 pages, was designed and printed by Jim Rimmer, and he also did the binding.

The Hannibal design is exceedingly legible in its 18-point size, with a strong Venetian feel. Perhaps some would find fault with his use of Garamont Italic with Hannibal. To that Jim responds "I used Garamont Italic, not because I thought it was the best pairing for Hannibal, but because I had very limited choices, and I didn't want to take the time to design and engrave a paired italic for Hannibal. In retrospect this was probably unfortunate, but the whole project was just too huge for me and I did not have the energy to also make an italic."

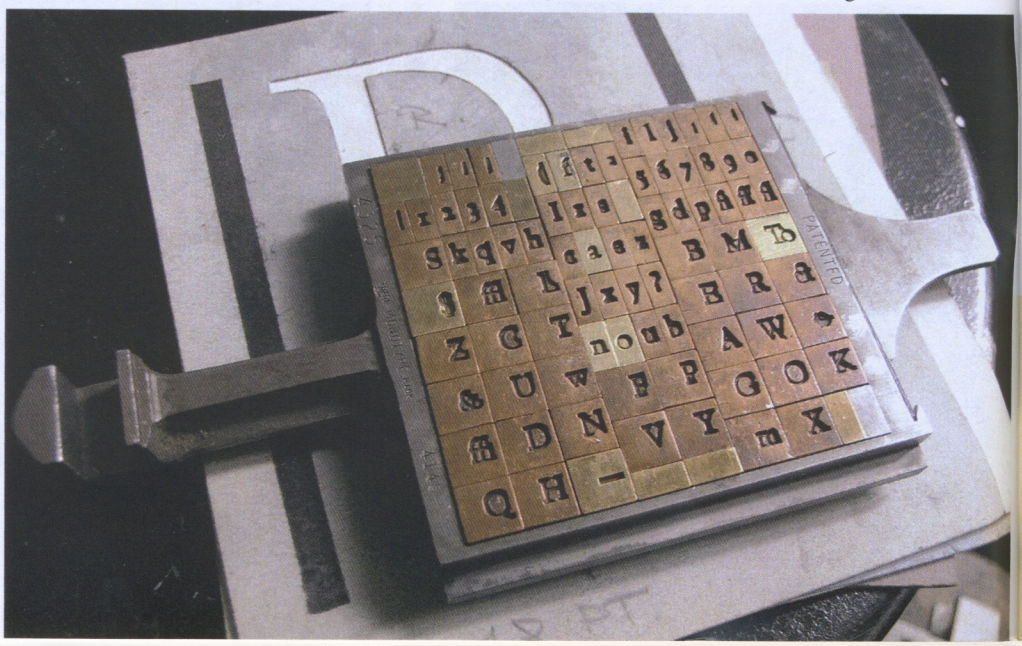
Anyone can cut an image into a hunk of wood. But it takes a true artist to cut an image which has personality, consistency, and charm. To these several artistic skills, Jim adds yet another. Color. Magnificent color. Color which creates dimension and enhances the charm of each of the several multi-colored presentations in his book. All rendered via chunks of wood, carved by hand, and printed in excellent register. The illustration opposite the title page included no fewer than 10 separate pressruns and the hand mixing of each and every subtle color makes *Tom Sawyer* jump off the page at you, with his larger-than-life personality compelling you to read the book all over again, even if you had done that years ago as a kid.

More details regarding the illustrations. "There are nine full page, full color linocuts, ranging from seven colors to 12, and there are 54 (I think) one-color spot illustrations printed in brown. Also some linocuts," Jim casually reports.

Jim also did the binding. "The book has a hollowback rounded spine, quarter bound in black calf and printed on Moss Green Canson Mie Tientes paper with an overall pattern of 48 point frogs, which I designed, engraved and cast for the printing of these cover sheets. There is a place ribbon bound into the spine. The head and tail bands are black and white over cane material. The bugger weighs six pounds!"

The book is available now, as Jim continues to complete binding on all remaining copies. The edition is limited to 75 copies, priced at $1,000 Canadian. "In my defense, it took me six and a half years to do, and a lot of cash out of hand." Certainly no individual would take on a project of this magnitude with profit motives in mind. If Jim were properly compensated for the time and talent involved in this volume, the price definitely would be significantly higher.

As a postscript, I must report that Jim has received bad health news recently. He has been diagnosed with oral cancer which is deemed inoperable. He's already begun a regimen of treatment and is holding up fairly well against this adversity. "I'm a fighter and I don't intend to let this get me down," Jim said. He agreed to



An exceedingly unique matrix case filled with large composition matrices designed and manufactured by Jim Rimmer of his own Hannibal design, placed atop a cardboard pattern of one of the letters, for use in his pantograph. The brass mats were engraved. Other mats of copper were electrodeposited.

Photo by Tom Rimmer, Jim's son.

and wished they dared be like him. Tom was like the rest of the respectable boys, in that he envied Huckleberry his gaudy outcast condition, and was under strict orders not to play with him. So he played with him every time he got a chance. Huckleberry was always dressed in the cast-off clothes of full-grown men, and they were in perennial bloom and fluttering with rags. His hat was a vast ruin with a wide crescent lopped out of its brim; his coat, when he wore one, hung nearly to his heels and had the rearward buttons far down the back; but one suspender supported his trousers; the seat of the trousers bagged low and contained nothing; the fringed legs dragged in the dirt when not rolled up.

Huckleberry came and went, at his own free will. He slept on door-steps in fine weather and in empty hogsheads in wet; he did not have to go to school or to church, or call any being master or obey anybody; he could go fishing or swimming when and where he chose, and stay as long as it suited him; nobody forbade him to fight; he could sit up as late as he pleased; he was always the first boy that went barefoot in the spring and the last to resume leather in the fall, he never had to wash, nor put on clean clothes, he could swear wonderfully. In a word, everything that goes to make life precious, that boy had. So thought every harassed, hampered respectable boy in St. Petersburgh.

Tom hailed the romantic outcast:

"Hello, Huckleberry!"

"Hello, yourself, and see how you like it."

"What's that you got?"

"Dead cat."

"Lemme see him, Huck. My, he's pretty stiff. Where'd you get him?"

"Bought him off'n a boy."

"What did you give?"

"I give a blue ticket and a bladder that I got at the slaughter house."

"Where'd you get the blue ticket?"

take on the reworking of his title-page illustration for use on the cover of this *Newsletter* as a detraction—to get his mind off health matters. The reproduction is smaller than the original so the original blocks could not be used. Instead, he re-cut all ten color tint blocks by hand and gave detailed instructions as to what sequence should be used in laying down the colors so I could reproduce the cover via letterpress, just as the original was done.

Jim even offered to mix all the inks for me so that the original printing could be more closely matched. Such is the typical generosity of Jim Rimmer. The prospect of shipping ink across the border vetoed that idea and I had to mix all the colors used. Jim provided a line engraving reduction of the black block, which was cut by hand for the original printing. Having a copy of *Tom Sawyer* for comparison, I can attest that my work doesn't equal Jim's original, but it's an honest attempt to mimic the master.

In early September Jim reported, "Today I am taking a break from bookbinding to begin a new type family in metal. It's a 14 point roman with an italic and small caps. I had been planning to make the type for *Treasure Island*, but since it's such a big text, I may cancel it. I do want to make the type anyway, and will use it for something smaller. "I had also planned to re-cut the HANNIBAL diecase because the existing electroed copper mats got pretty well hammered in casting *Tom*, and I know they won't last for the casting of *Huck Finn*.

"So here's the plan: complete the design of the roman, italic and small caps, and print a small text with it. After that, re-cut HANNIBAL and set and print *The Adventures of Huckleberry Finn* using the new mats.

"I know this sounds optimistic, but I think if a guy plans to do something and sticks to it, he can overcome difficulties like health problems. If I'm wrong, at least I'll remain active and happy as long as possible."

You may contact Jim at rimmertype@shaw.ca.

Specimen of the* HANNIBAL OLDSTYLE *typeface as shown in the book, designed and put into Monotype composition matrix form by Jim Rimmer.

They found plenty of things to be delighted with, but nothing to be astonished at. They discovered that the island was about three miles long and a quarter of a mile wide, and that the shore it lay closest to was only separated from it by a narrow channel hardly two hundred yards wide. They took a swim about every hour, so it was close upon the middle of the afternoon when they got back to

History of Nuernberger-Rettig Typecasting Machine And Its Inventor Revealed in Obscure 1916 Journal

Among the many things I received from Paul Duensing was an obscure journal titled TYPESETTING MACHINE ENGINEERS' JOURNAL. *There was only one edition, dated April, 1916, but therein was a most interesting piece on the Universal Typecasting Machine including a photo of the inventor, Philip G. Nuernberger. That same edition included an ad for the machine which noted, among other things, that the machine would cast type, sorts and space material from 5½ to 48 point. The machine cost $1,500, and matrix fonts were for sale at $14.40 per font. The ad claimed they had over 1,150 up-to-date faces to select from, or that any Linotype matrices also could be used. The same publication contained a notice that the John S. Thompson Press Company was going to sell the Universal Typecaster. This was not the John Thompson or the company behind the Thompson Typecaster. Indeed, the Thompson Type Caster company eventually bought out the Universal company, shortly before the Thompson company itself was bought out by Lanston Monotype.*

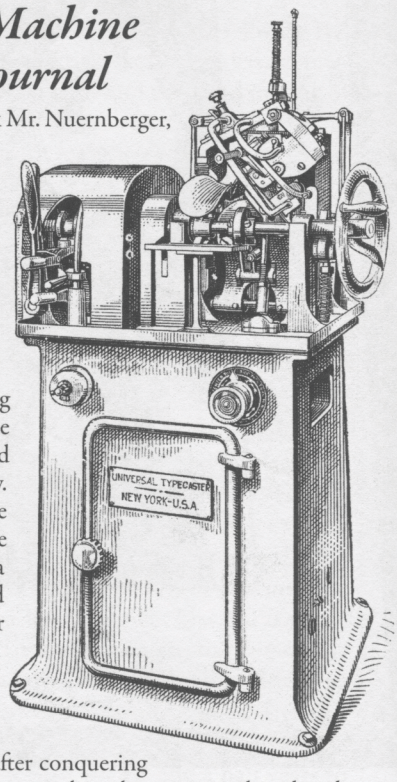
For comparison, in the same publication new Intertype linecasters were advertised as Model A at $2,100, Model B at $2,600, and Model C at $3,000. This ad carried a tag line "the right to manufacture is sustained by the courts," apparently answering claims against the company by Mergenthaler Linotype. Mergenthaler Linotype was mentioned in an article detailing the introduction of four new models: Model 16, 17, 18, and 19. Their differences? The Model 16 was termed "a half of the Model 9 with several improvements. Model 16 had two magazines independently interchangeable, two inches wider than the standard magazine. Model 17 added an auxiliary magazine and keyboard. Model 18 takes the standard Model 5 magazine. The Model 19 was substantially the same as the Model 18 with the addition of auxiliary magazine and keyboard, etc.

Here's the complete article on the Universal Type Caster and its inventor:

PHILIP G. NUERNBERGER
Inventor of the Universal Type Caster

No list of inventors of up-to-date type-making machinery is complete without Philip George Nuernberger. As long as Universal Type Casters are in use. Mr. Nuernberger's name will be remembered in connection with this truly universal composing room machine. Even had he invented nothing more, he would deserve full measure of credit for having produced this machine, so useful to the busy printer.

To mention the Universal Type Caster is to speak of "Phil" Nuernberger's "hobby." Indeed the history of the caster is a history of the inventor's untiring efforts to create a machine that would quickly fill the type cases of the printer with "just the type he wants when he wants it." To accomplish this task Mr. Nuernberger, after many years of type-foundry experience, formed a partnership with Georg Rettig in 1904 under the firm name of Nuernberger-Rettig Co., the object of the company being to manufacture type molds, fine tools and special machinery. Experiments were conducted in the manufacture of a machine to be sold to the printer for the manufacture of type for his individual needs.



After a few years of hard work, and after conquering many difficulties, a practical machine was marketed under the name of the Neurenberger-Rettig Type Caster.

Like most inventors, Nuernberger did not possess sufficient capital to market his invention and was compelled to form a company, receiving a proportion of the stock for his patents. This company was later reorganized under the name of Universal Type-Making Machine Company and the name of the machine was changed from Nuernberger-Rettig to the Universal Type Maker. Most users of the machine, however, still know it by its original name.

Mr. Nuemberger entered the type founder's trade years before the "iron compositors" [Linotypes] were even thought of, having started his apprenticeship with Marder, Luse & Co., of Chicago, in 1878. After three years with this concern he started a three-year "shift" with Barnhart Bros. & Spindler.

Moving to New York in 1884, he worked successively for the Farmer-Little Typefounding Co., the Dickinson Type Foundry of Boston and the Cleveland Type Foundry of Cleveland, Ohio.

Returning to Chicago in 1891, he re-entered the employ of Barnhart Bros & Spindler Co. and remained with this firm for about 13 years with the exception of a short time spent with the Indestructible Type Foundry.

Mr. Nuernherger is at present located in New York City as the mechanical engineer for the Universal Type-Making Machine Co. In this capacity he is working out several important improvements designed to make this Universal machine of still greater benefit to the user.

High Water Fails to Dampen Spirits at Grafton

Even a month before the ATF Conference, hosts Sky and Johanna Shipley were forced to issue warnings of high water and potential flooding of the Illinois River, complicating access to the Pere Marquette State Park Lodge near Grafton, Ill., site of the meeting September 11-14, 2008. High water did flood some access routes, but 33 enthusiastic "delegates" took the necessary detours and arrived at a meeting destined to bubble with enthusiasm.

The Pere Marquette Lodge at Grafton, Ill. (near St. Louis, Mo.) provided excellent facilities for our meeting.

Several persons were attending their first ever ATF meeting and found intense interest in all aspects of the ancient art of typefounding absolutely addictive.

On Friday, a very tight program extended from 8:15 in the morning until after 8:15 that evening with demonstrations, video presentions, and emotional talks relating to all aspects of typefounding.

Bob Mullen of St. Louis started the program with a good visual presentation of the various historic type foundries of his city. Other items on the program included a discussion of his current projects of making hand molds by Stan Nelson of Ellicott City, Md.; memoirs of a life in typefounding by Karl Rathgeb of Willingboro, N. J.; a discussion of the Kastenbein Typesetter by Mark Barbour of Carson, Calif.; a video documentary on the cutting of metal type by Jim Rimmer of Westminster, B. C., Canada; experiments in milling matrices by Mel Arndt of Toledo, Ohio; punchcutting at the French Imprimerie Nationale by Stan Nelson; the Koike (Japanese Thompson) Typecaster by Rich Hopkins, Terra Alta, W. Va.

Somewhere in the midst of it all we ate lunch, but soon returned to a discussion of the future of ATF (positively accented by the presence of several new, younger "associates"). Additional talks were given by Stan Nelson and Rich Hopkins.

Evening presentations included visuals of "extreme alphabets" of the 19th century by Bob Mullen, and a visual tour of the Dublin Print Museum by Carl Schlesinger. Though presentations ended, discussions continued in the huge lounge area of the lodge far into early morning hours with much interest in computer interfacing to the Monotype Composition caster generating intense discussion with Bill Welliver of Wapwallopen, Pa., Ky Wrzinsky of Middleton, Wis., and Kevin Martin of Waterloo, Ontario, Canada, explaining specific work each has done in developing such a device.

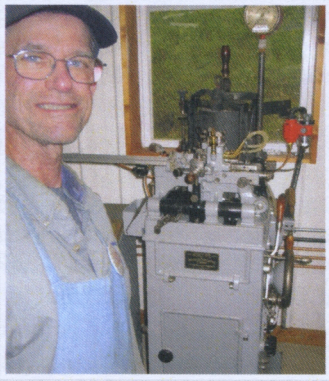
Saturday was consumed by an extensive swap & sell meet, an open "show & tell" discussion, and the legendary ATF auction, headed by David Churchman and David Peat, both of Indianapolis, Ind.

Sunday events at the Skyline Type Foundry (about 50 miles to the north at Kampsville, Ill.) forced everyone into closer contact with the flooding and wet weather which had dominated the weekend. The usually docile creek crossing in front of the Shipley property was a raging torrent, forcing everyone to take the back route across a make-shift bridge, with Bill Welliver providing much of the transportion in his four-wheel-drive Subaru. But the trip was worth it with the shop spic-n-span in perfect order, and ample provisions for lunch and entertainment.

Observing as the "founder" of ATF, Rich Hopkins noted his great excitement over the large delegation of younger people present, and their infectuous enthusiasm. This was the first biennial meeting of ATF not to include two of the main speakers at the first conference in 1978: Paul Duensing of Watkinsville, Ga., passed away November 2, 2006, and Pat Taylor of Lake Wylie, S. C., was unable to attend. But the remaining two, Rich and Stan Nelson, carried on well in their absence.

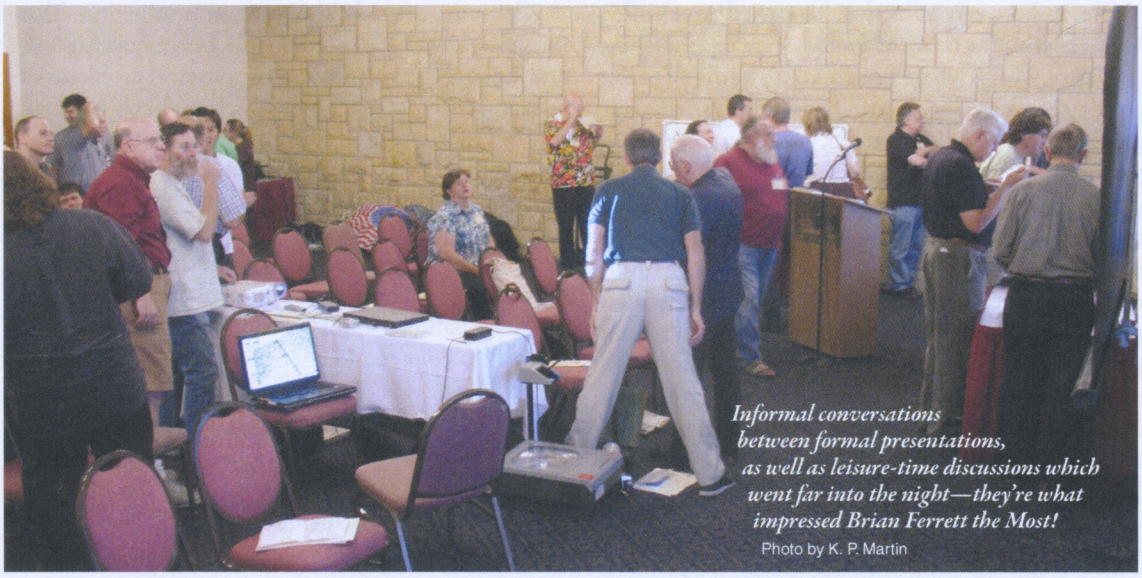
Getting to Kampsville was half the fun. Water-logged Dave Peat of Indianapolis, Ind., and Tim Trower of Springfield, Mo., stand with the ATF sign posted near the parking area at the Skyline Type Foundry. In front of the raging creek are muddy participants Ky and Sara Wrzesinski of Middleton, Wis., Tim Trower, Dave Peat, Chris Chen of Freemont, Calif., and Carl Schlesinger of Rutherford, N. J.

Sunday With



Sky poses in front of a fully restored and reconditioned Thompson caster at his foundry. Johanna, meantime, proves her press knowledge (she prints all the foundry's promo materials).

Bob Magill of Union, Mo., prepares to demonstrate casting on one of the Skyline Thompson machines, while Rich Hopkins, Greg Walters (host of the 2010 ATF Conference at Piqua, Ohio) and Sky Shipley pause during conversation. Photos by Karl Rathgeb and Kevin Martin.



Informal conversations between formal presentations, as well as leisure-time discussions which went far into the night—they're what impressed Brian Ferrett the Most!
Photo by K. P. Martin

A Newcomer's Impression of an ATF Conference

It's gratifying to see newcomers at our ATF Conferences. The Grafton, Ill., meeting was a first-time experience for Brian Ferrett, coming from San Francisco, where he is an apprentice in typecasting at M&H Type. Here's what he thought of the 2008 meeting:

By Brian Ferrett
Typecasting Apprentice, M&H Type

August 16, 2009—It's 74 degrees outside. The kind of day San Franciscans seem to dream about. The fog has rolled out to sea. It's not damp or windy as it normally is, and people are outside enjoying the park and cookouts. I'm sitting in a cold, dark library. The page seems to be eyeing me with contempt. I can leave at any moment, but I won't.

Why am I sitting in a dark library with *The Curwen Press Miscellany* from 1931 in front of me instead of being at the park with a can of Pabst and a Frisbee? I think back to a year ago when I started casting type and when I was able to go to the American Typecasting Fellowship gathering.

Printing has always intrigued me. All aspects of it interested me, from screen printing to gravure to flexography. Letterpress, however, was always what I wanted to learn. Little did I know I could actually become more interested in how the type was created. When I started to work for M & H Type in San Francisco a year ago, I had no idea what an amazing process typecasting was, nor did I know of the great variety of ways type could be cast.

The St. Louis area was not quite 74 and beautiful. In fact it was raining, flooding was threatened, and it was hot and muggy—really muggy. This didn't matter to the attendees at the Conference, however. The feelings of camaraderie and (ahem) *fellowship* seemed to keep everyone from caring about the weather or whether we would be stuck in a flood.

It amazed me how excited everyone was to be there and how quickly everyone jumped into conversations about what they were doing, creating, fixing, or updating. Honestly, I felt a little awkward at first, having only been casting for a couple of months. I am happy to say this did not last more than a few moments. The excitement of talking about typecasting boiled over to excitement as more and more people joined our conversations.

The next few days were like a crock-pot stew of typecasting information—a bunch of topics put together and simmered for twelve hours. I had no idea there was so much information available about typecasting. After all, this is not a topic they teach in public schools anymore.

I enjoyed the different sessions very much, from the history of St. Louis casting to the videos demonstrating the Koike caster, to how mats are made at the Imprimerie Nationale. Not being the kind of person who can sit around, it's usually hard to keep my attention for more than a few moments, yet I found myself deeply caught up in the various presentations. I must say I enjoyed the mix of historical pieces and "this is how something works" talks. I greatly appreciated the Rich Hopkins' blooper video on "how to pi a mat case," having done just that a few weeks before. It made me feel like less of a heel.

The in-between talks that happened over coffee and beer with the other attendees were especially informative. This is where I really got to know all of the people that were into casting and how varied their backgrounds were. I found out why they were there, the machines they dealt with, and the potential ways to fund projects they had on the horizon. I became excited with the possibilities of what could be done.

This is where all of the important information that could not fit into a talk appeared. People had questions that other people could answer. "I keep getting this result" problems were followed by "Have you tried this?" answers. This is what made the conference for me—informal conversation over a beer about why that guy is wearing a Cheltenham sweatshirt when the typeface is not Cheltenham, or why your caster squirts molten lead when you cast an 18 pt. Original Old Caslon cap P.

The sense of craft. The pride in production. This is a group of very talented people who enjoy the craft and are able to work around the physical problems of working with old machines which are likely to break down. These informal conversations were what most excited me about the Conference. I truly enjoyed the time there and sincerely wish I could have made it to the Thompson demonstrations afterwards.

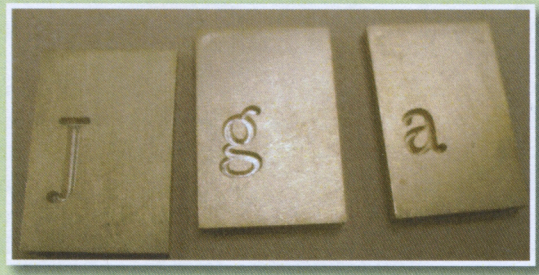
I have had a year to think about that last Conference, and have another year to plan for the next. My rapidly expanding library of Monotype and Linotype sample catalogues and letterpress instruction manuals is filling my 500-square-foot apartment, but I have a space left open for the keepsakes and swap meet goodies still to be purchased. I also created a separate savings account just for the 2010 ATF Auction and have been practicing my bidding techniques. All in all, I must say I'm pretty excited about next year.

Engraving Monotype Mats on a CMC Milling Machine

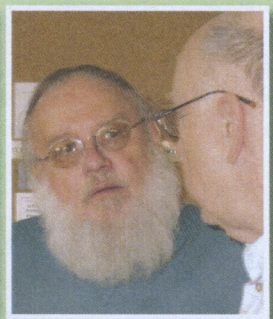
A Conference highlight was a presentation by Mel Arndt of Toledo, Ohio, who gave his experiences in creating patterns on the computer and then translating those patterns into engraved Monotype matrices using a computer-driven milling machine. He's been doing experimental work for over a year and feels he's getting very close to solid success.

Mel brought with him samples of matrices he has engraved using the processes he described. Not yet having his own typecasting equipment, Mel was anxious to see the results of his work in actual cast type, and that followed at the Open House at Skyline Type Foundry on Sunday. Mel's mats were cast on the Thompson as anxious bystanders looked on.

Very close examination of the cast type revealed problems which were not easily visible looking at the matrices. Mel explained the "chatter" visible on the face of the mats, along with rounded edges, both gave evidence he was working with a flawed cutting tool. Fortunately, he was able to gain much information from others attending the Conference regarding making your own cutting tools rather than laying out large cash investments in commercial tools.



Here are three experimental brass mats Mel Arndt has made on his milling machine. With the naked eye the mats appeared very accurate and fit for the job, but a close-up of a casting (above) showed the cutting tool had problems which translated into rounded characters with a "fuzzy face." Photos by K. P. Martin



Mel Arndt (left) obviously in intense conversation with Rich Hopkins.

Dale Guild Typefoundry Reports Vigorous Activity

The following article has been provided by Alan Waring of Fairfield, Conn., who manages design work, sales, and other activities of the Dale Guild Typefoundry, with Theo Rehak doing the mechanical and casting work at the foundry in Howell, N. J. It is the only facility in the world which continues to operate the celebrated Barth casters from American Type Founders.

Strangely, ever since the market crashed, business has been better than it has been for years. The *whys* and *wherefores* are mostly mysteries, but I know many of our sales come from those who had done some hard thinking as a result of the crash. During the last 18 months or so, we have been casting small bookfonts (about 100 pounds) for customers new to us from a wide range of backrounds. We don't know just how such printers surface, but they all share a like vision. Printing type is one of those rare commodities which holds its value when unused and is greater when used to print well-crafted books.

Not many choose to invest time and money in the anachronistic craft of letterpress printing with movable types, but those who do, do so with passion. On the other hand, e-bay sales for small fonts utterly died. As our metal supply allows, we have recast some fonts that have been out of stock far too long, but the high cost of metal has changed our outlook and has restricted our freedom to cast for shelf stock. In the instances of Solemnis and American Uncial, our fonts vanished by 15-25 fonts per sale. Again, the desire to set text has kept us solvent.

One of our most illustrious customers came last October seeking a four-page font of our B-42 Blackletter. It was our first B-42 Blackletter sale to an American institutional owner of a *Gutenberg Bible,* and our first sale to an institution holding a *complete* two-volume set. (We sold an 8-page font to Keio University, Tokyo, in 2004; they own the single volume Doheny copy.)

Hope Mayo, curator of the Philip Hofer Collection of Printing & Graphic Arts in the Houghton Library at Harvard University now has a B-42 font along with the *Bible* and an Albion handpress. Nearly as important, she is a curator with the vision to make use of it all. We offered to hand deliver the font (in Cambridge traffic) and were rewarded with two blissful hours with volume one of Gutenberg's *Bible* in a Houghton Library reading room filled with incunabula. Leaf after crackling leaf! Oh, the sound and feel of linen paper!

Last month, we cast 12-point Garamond Italic for the first time ever, for a man who ordered a bookfont of the roman and small-caps. (Theo has never cast the italic for Fritz, only the Roman). I added to the casting order and put together six fonts; one large, five small. As the Roman is common, and our metal supply short, we could not do both for stock. Such are the economics of the present-day foundry-type business. It took me almost three days to assemble these six fonts—hardly worth the labor. But the extra type cast made better economics in casting the italic, which requires five times more labor to cast than the roman, but we certainly can not charge five times as much. One of the little-known things of running a foundry is that the casting of foundry italics, with the very numerous knife changes, is only economically feasible if several hundred fonts are run at a time. In this respect, each of the "aeninorst" might run six hours more before a mat change.

A small book font of the roman costs from $2,800.00 to $3,250.00, but it enables the buyer to insure his/her letterpress future over and over again with setting and distribution. Those who use polymer plates may have the luxury of various faces and sizes, but the expense is incurred over and over and must be passed on to the buyer (if there be any). Of course, anyone in the business of "fine press books" knows that the plastic typed text of said books ruined the business/craft for those who actually made books with their own hands instead of the labor of others.

In any event, it should be remembered that most successful private presses were successful with only one or two fonts of type. With small editions of 150-200 copies, it would take near a lifetime to wear out a font of foundry-cast type. That is a matter of record.

Soliciting Those Doing Typecasting

It seems some folks aren't aware of the original meaning of the word TYPECASTING. An e-mail was received recently suggesting that "we" were in competing businesses. Here's what they listed as their qualifications:

"We have over 5,000 casting directors, studios and production companies that come to our site to find talent for their upcoming projects. These casting directors put over 6,000 unique casting calls and auditions notices into our casting call database every month and we have a drastic need for talent to fill the many opportunities we have in Movie Extra, Acting, Modeling, Runway, Fashion, and Crew just to name a few!"

Well, I don't think they have a reason to fear the American Typecasting Fellowship, 'cause we're in a whole 'nother CASTING business!

Adjusting the Monotype Bridge

A Tribute to Amazing Technology Now Over 100 Years Old

Realizing that the Monotype as we know it was introduced over 100 years ago, one can only marvel at the precision and accuracy built into every aspect of the machine. The Bridge is an excellent example. When the Composition Caster is running at over 100 casts per minute, the Bridge is rapidly moving up and down, yet each time it brings the Matrix in contact with the Mold, *it is holding to a tolerance of less than the thickness of a piece of bond paper!*

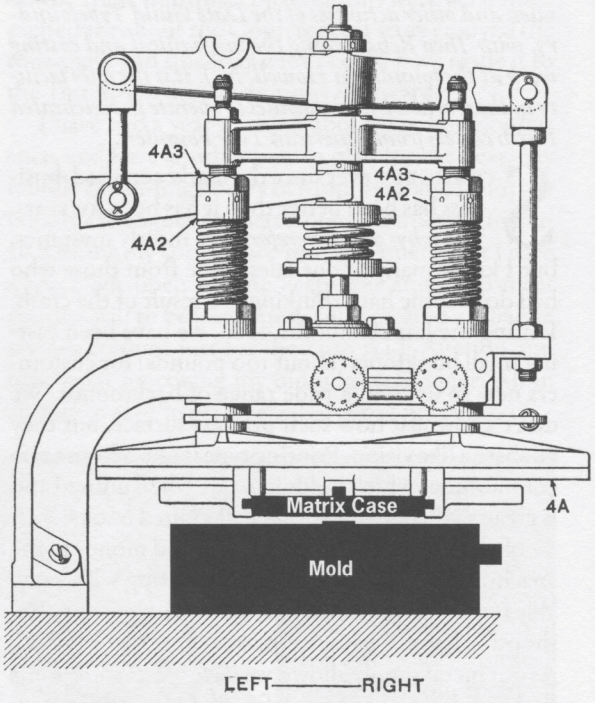
The illustration to the right is from the American manual, *Casting Machine Adjustments* (I have modified it a bit). The English Bridge has been beefed up a bit, but it functions precisely the same. This article is not going to detail every step in adjusting the Bridge. Rather, it's an effort to explain what's going on and just how critical all the adjustments are.

We want to get the Matrix Case Carying Frame (labeled 4A) to lower itself and Matrix Case to seat on the face of the Mold quickly, with exacting precision. The manuals say the adjustment is correct when the seating is "tight" with two thicknesses of controller paper, but just "snug" with one thickness. It is adjusted by loosening the two nuts labeled 4A3 and adjusting the abutments 4A2 up or down until both Guide Rods are precisely equal in allowing downward pressure on the Matrix Case.

That's easily said, but difficult to accomplish. The adjustment variance is *less than the "play" in the very fine screw threads of this mechanism.* A "just right" setting goes askew when one tightens down on the two nuts 4A3 to lock it in. One can work hours getting the setting correct and the importance of the adjustment cannot be over-stated. Too tight and you are putting excessive pressure (wear) on your matrices. Too loose and you get fins around the face of each character as it is cast.

Further complicating the problem, any adjustment made to the right-hand screw affects the adjustment of the left-hand screw. If they're not equal, fins might appear only on the bottom edge of each letter cast, but not the top. Recently I fought this problem well over two hours. No matter how hard I tried, I could not get the pressure to be equal on both Guide Rods. Invariably I ended up too loose on the left side and that was where I was geting fins on type before initiating the adjustment.

I put the machine back together and sure enough, the fins persisted. Then I applied a bit of logic. When in the Army, we called it a "field expedient." I reasoned that if the left side was "loose," perhaps I could increase the pressure a trifle by placing a thin piece of paper under the Mold on that edge.



Those who know Monotype know it's customary to place a paper gasket between the water orifices of the Mold and the machine's Mold Base. Likewise, we're instructed to place an equal "shim" of paper under the two remaining feet of the Mold to equalize the footing. Heretofore, I thought this rather silly. After all, the Mold Base is nearly ½-inch thick solid steel. Surely a single thickness of bond paper wouldn't "spring" the mold!

Nevertheless, I thought if I shimmed the two left-hand feet of the Mold with a an additional thickness of paper, perhaps that would level the contact with the Bridge, overcoming the deficiency in my adjustment. So I removed the mold, added one paper thickness (I use standard lick-n-stick paper which measures .0003") and returned it to the machine.

To my great surprise, when I fired up the machine this time, the fins were gone. A mere three ten thousands of paper underneath one side of that huge chunk of steel (called a Mold) made a substantial difference in the quality of the type being produced. And keep in mind, this "contact" is being made repeatedly at speeds sometimes exceeding 120 casts per minute. Thanks to the phenomenal precision built into the machine, precise and consistent pressure is applied to the matrix.

And realize the whole thing was worked out long before computer-assisted design was ever thought of.

A German Schriftgießer Takes On Monotype and the New World

Karl Rathgeb was a special guest at the Grafton ATF Conference in 2008. He learned of our organization via the Internet and contacted Sky Shipley, who heartily invited him to join our group. At the meeting he told of his long and varied career in type. I asked him to give me an article concerning his experiences and herewith is his fascinating lifetime story. His lengthy career started in a German typefoundry and ended with the introduction of Postscript and the death of photocomposition.

By Karl Rathgeb
Willingboro, New Jersey

In April 1946, less than a year after World War II ended, Stuttgart, Germany, still lay in ruin. Money wasn't worth a thing. Everything to eat or useful required ration card stamps. In the black market a pack of cigarettes or a pound of coffee cost a weeks pay. Journeymen made about 100 Reichsmark a week. Apprentice pay was 10 RM.—not enough to cover the week's streetcar fare.

New money was introduced in 1948: one Deutschmark for 10 Reichsmark. A limited amount of cash could be exchanged immediately. The next day stores were full of goods. Rationing came to an abrupt end. In 1946, I was 14 years old. School was a waste of time. Most former teachers were considered Nazis, and not allowed to teach anymore. Schoolbooks were reprints from before Hitler's time. Substitutes were young college people—more like babysitters.

My father found me a three-year apprenticeship as typefounder at C. E. Weber, Schriftgießerei in Stuttgart. As an apprentice I was assigned to a journeyman. Lucky me, my master was a smart, good, and considerate man. Being a German borderguard he surrendered promptly to the Swiss when the war started in 1939. He spent the war years as prisoner of war, interned in a camp near Basel, Switzerland. In the daytime he worked as typefounder at the Haas'sche Schriftgiesserei, in Muenchenstein. The internment camp collected his earnings. He told me of Haas and the personal support he received from people he worked with at the foundry.

I worked as his apprentice for three years, learning the Kuestermann and Foucher typecasters. Then I sought to learn the other skills needed to work the trade—like getting type ready, milling type to custom height, putting a special signature on type, cutting thin spacing, undercutting overhangs, assembling fonts and justifying matrices. The Weber foundry extended my apprenticeship six months so I could learn these added skills. Throughout my apprenticeship, I was required to attend graphic trade school one day a week. Two typefounder apprentices were mixed in with a beginning class of compositors.

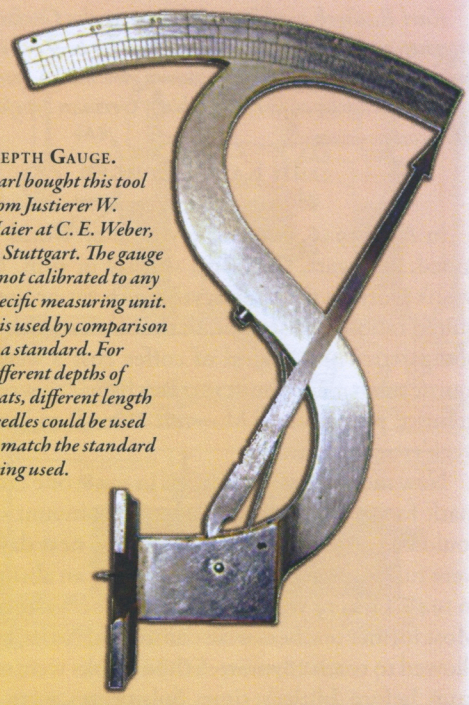
In September, 1949, I passed the prescribed journeyman test and was initiated as journeyman. In Germany, specifically at C. E.Weber, a casterman worked piecework, running one machine at a time. His pay was calculated by how many kilogram of type he produced. Some type sizes were profitable, others barely. Machine and job assignment was by seniority, nepotism and politics. A journeyman could draw pay as needed and as his credit allowed, based on history and expected future production. Being ahead casting type, was called being "sweet"; being short was "sauerkraut."

Karl Rathgeb stands with one of Sky Shipley's Thompson casters while attending the ATF Conference at Grafton, Ill.

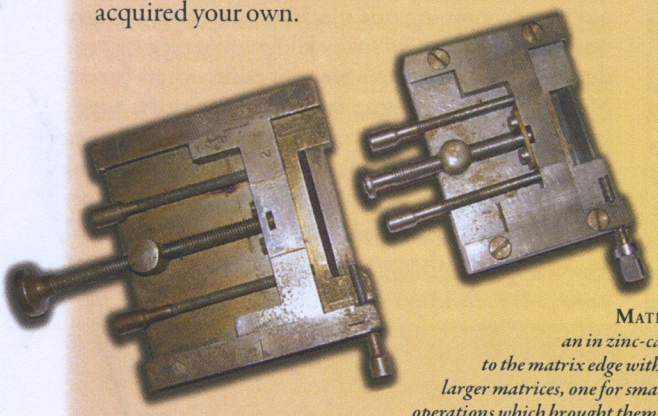
Tools of a German Typefounder

Surprisingly Similar to the Tools We Use!

Karl Rathgeb (see article on adjacent pages) says that traditionally, tools were made to order by the machine shop in the foundry, to keep machinists ("Zurichter") occupied. This was actually a separate trade. These were the people who made spare parts, fixed breakdowns and did maintenance on molds, pots and pistons. All typefoundries where Karl worked had complete machine shops and the machinists were happy to build an instrument for a price. But mostly, tools were inherited or bought from retiring colleagues. Most journeymen had their own tools. As an apprentice, you used the spares of your master—until you acquired your own.



DEPTH GAUGE. *Karl bought this tool from Justierer W. Maier at C. E. Weber, in Stuttgart. The gauge is not calibrated to any specific measuring unit. It is used by comparison to a standard. For different depths of mats, different length needles could be used to match the standard being used.*



MATRIX MILLING STAGES. *When justifying a raw punched copper, or an in zinc-cast galvanic mat, the first step is to work the image to be parallel to the matrix edge with the sidebearing to a precise width. These two tools (one for larger matrices, one for smaller mats) were used to adjust and hold matrices during milling operations which brought them to proper alignment and dimensions.*

ALIGNMENT TOOL. *An adjustable straightedge is brought to the precise baseline of a sample character, with a newly cast character beside it. The straightedge establishes whether the new character is properly positioned on the body both for up-down alignment, and by turning sideways, for right-left alignment.*

WE CALLED IT WINKELHACKEN. *This brass gauge was used to compute how many individual pieces of type fit on a stick. Fit one letter in the taper and you have your answer. It makes it easy for the casterman to know when enough type has been cast. ("Stick" refers to the wooden receptical used by a casterman to store type temporarily, before it is carried to the fonting area.)*

GAUGE FOR CHECKING SET WIDTH. *This adjustable gauge has a very slight shrinking incline to compare the set width of newly cast type to a sample. With the gauge set with a sample in the middle of the taper, then inserting newly cast characters easily establishes whether they are too wide or too narrow. More modern shops often use micrometers for this purpose.*

Photographs are not to scale.
Photography by Karl Rathgeb.

If a casting machine needed extensive repair, an individually established base rate was paid for downtime. This pay scale was calculated on the average of past earnings. New journeymen, with no valuable base like myself, received all of one Mark per hour for downtime. The workweek consisted of 48 hours: five 9¾-hour shifts, sometimes with overtime on Saturday. Since I had "some history" with the *Faktor* (superintendent), my assignments did not always make me happy or make me money.

I moved to the Johannes Wagner, Schriftgießerei, in Ingolstadt, Bavaria, in 1950. Starting weekly salary was 60 DM. My duties included casting type and making mats 48 hours a week. It was the first time I was on my own, away from mother and home. Quickly I found out how tough and expensive living alone was. I could not find an affordable apartment. Bad habits, like eating out, beer consumption and girlfriends kept me constantly broke.

Two years later, 1952, I quit in Ingolstadt. To me it was a foreign country! At work, most colleagues were genuine Berliners. The foundry was a refugee from Berlin, relocated there during the war. The natives were Bavarians. Each tribe had its own dialectic and Bavarians regarded me a Prussian. Every stranger was a "Praeiss." I had applied at and been hired by Haas in Switzerland and was waiting for my immigration papers. This took considerable time. In the meantime, I applied myself in Stuttgart, working in a Graphische Kunstanstalt—a company where illustrating cuts were produced. Mainly I scratched off excess resin, routed and mounted cuts for use in catalogs.

Move to Haas in Switzerland

A few months later, the papers from Switzerland arrived. The Haas Faktor welcomed me at the railroad station. Taxied me to a generous dinner. The company arranged for an apartment, where I lived until I departed in 1955. At Haas I worked most departments of the foundry. Salary, not piecework, twice the money, with half as much production expected. Perfecto! Still, some things bothered me. I was required to report to the *Frendenpolizei* (immigration) to renew every few months my visa and work permits—and pay a stiff fee. This proceedure required the company to certify an ongoing need, getting Union and employment office concurrence, and showing a receipt from the tax office indicating up-to-date compliance. I also was forced to pay a special tax for not being eligible to serve in the Swiss Army and was forced to contribute to an unemployment insurance fund but could not collect benefits outside the country. Health insurance for foreigners was lousy, and one was required to leave Switzerland immediately if one changed jobs, quit or was fired. Little annoyances, perhaps, but after a while they became bothersome.

The Canadians Seek Immigrants

I decided to hit the road in 1955 to find happiness elsewhere. My first choice would have been the United States, but American immigration requirements were too complicated, requiring a sponsor, perfect health, a opening in the quota, and enough money to survive two years. In contrast, Canada advertised for qualified immigrants and even offered loans to finance the adventure. I chose Canada. Assessing the job situation for a typefounder, I discovered that working in the trade was limited to operating Monotype machines.

First Introduction to Monotype

I prepared for Monotype by interning a couple of weeks at the Volksdruckerei in Basel. They had a brand-new English Monotype installation, operated by four ex-typefounders from Haas. The previous Volksdruckerei in Basel was bombed to ashes, by America during WW II, while aiming for Germany. As restitution, America built a brand new printing plant, with the latest equipment.

In Stuttgart, I did a similar stint in a Monotype casting room. Sometime, in June 1955, I said goodbye to all my relatives and friends. One of my aunts gave me 5 Marks and wished me well. That was the only money anybody invested in my adventure. On the way, I spent three days in Paris. Visited the Deberny & Peignot typefoundry, met the type designer Frutiger, who gave me a tour. He was working on the Universe typeface at the time. Also, I saw my first photocomposing machine, Lumitype, then being developed—it was all over the floor in an experimental department. The Lumitype became the Photon in America.

I arrived in Canada Friday, June 29, 1955, in Quebec City. It was 110 degrees; I felt we had landed in Africa. During the Atlantic crossing, the ship had to avoid icebergs. Everybody was still dressed accordingly. Finally, in the afternoon a train arrived at the pier and we loaded for an all-night ride to Toronto. We assumed immigration people would meet us at the train station, because while in Quebec City we had been tagged with signs spelling out our destination. Arriving in Toronto, we expected a welcome from the immigration service, maybe even a brass band. Nobody showed. I now realize the tags were to remind the conductor where to throw us off the train.

We checked our luggage at the railroad station and had to find the immigration office ourselves. Nobody spoke enough English to ask the way. We feared get-

ting lost in the subway so 12 of us walked the full distance, stopping for lunch on the sidewalk outside a grocery store. Arriving at the immigration office around noon, we were told: come back Tuesday—it happened to be a long weekend in Canada and they were closing early. Fortunately, my mother had given me the addresses of previous immigrants from my hometown. I called and they welcomed us.

On Tuesday the immigration office made calls and suggested I visit the ITU office. That's how I got a permit; I worked Monotype composition casters alone (except for a keyboard operator) without being able to speak much English. Made $87 the first week, and the second. The third week, a German-speaking pressman from the basement informed me I would not need to come back. I went back to ITU Local 91 office to complain but was told I had been filling in for a casterman on vacation. They promised to call on me, if another opportunity arose.

Enrolling in English Classes

Relatively rich, I enrolled in English summer classes at the University of Toronto. Most other students had to learn the roman alphabet. They were Russians, Turks, Chinese, Greeks etc. Thus, I was the outstanding student. After a few weeks watching TV, I was able to read the paper, use the telephone, look for work and have a conversation. I tried to work in the trade. Found a big rotogravure printer, which had a Monotype department. They printed the Sears catalog. Took a job as jogger on a gravure press. Thought maybe I could work my way into the caster room. Made 50 cents an hour, had 20 minutes off every hour, to get fresh air and use the toilet. Everybody looked pale and sick. Most looked ready to die. Nobody paid attention to the fumes of gravure printing—a surprising contrast to Germany, where air quality was monitored regularly. So I quit and subsequently worked as a painter, a welder, sheetmetal mechanic and fitter. Then I found work at Moore Business Forms as an assistant pressman. They had Monotype casters, but I couldn't get work in that department. There I saw the first Intertype Fotosetter.

Discovering Lanston Monotype in U. S.

During the winter of 1959, I approached Central Technical School in Toronto, asking if they would let me play with their Monotype equipment. Nobody had time to show me anything. Still they charged a fee. I filled up their typecases using a Supercaster. Somebody there told me that Lanston Monotype Corporation in Philadelphia gave courses on keyboard and casters. After inquiring, and counting my money, I applied for a student visa and enrolled at Monotype School in Philadelphia, for a keyboard course.

U. S. immigration checked me out and handed me a student visa. I knew nothing of Philadelphia and had to seek it out on a map. Arriving via the now-defunct Reading Railroad, I took a taxi to 24th and Locust Streets where the The Monotype School was being conducted. This was in May of 1960.

Studying at the Monotype School

The School was established by Lanston Monotype soon after the machine was introduced in the early 1900s. Its purpose was to train operators for Monotype equipment. The facility was located on the first floor of the Monotype Building at 24th and Locust Street and occupied 24,000 square feet of floor space. Equipment consisted of 18 Monotype Keyboards, six Monotype Composition Casters, one Monotype Material Making Machine, one Monotype Giant Caster, one Monotype Type and Rule Caster, and one Thompson Typecaster. There also were four dynamic cut-away Composition Casters to acquaint students with the various mechanisms.

A Monophoto Filmsetter from England, was also on display. The school was open to both men and women. Because of the nature of the Caster operation and maintenance, female applicants were requested to limit their interests to the Keyboard courses only. Entrance requirements: a high school education, good moral character, and maturity of outlook and purpose, plus some printing experience.

The school retained the right to administer aptitude and achievement tests to determine the applicant's capacity for learning the Monotype System. Credit was given for previous experience, when the student could demonstrate knowledge of the subject. Length of the courses was estimated, depending on the student's ability to grasp the material. Classes were held Monday to Friday, 8:30 a.m. to 5 p.m. with an hour lunch break. The school operated 52 weeks a year. Only national holidays were observed.

The Director of the Monotype School, George W. Little, had a list of rooming houses, where previous students lived. I bedded down at 2215 Locust St., just two blocks away. It was a typical private residence, in this part of Philadelphia. Maybe 20 feet wide, kitchen and dining room in the basement, living room and a bedroom on the ground floor, the upper two stories bed-and-bathrooms. $15 weekly rent. No privileges. Sometimes four students lived there. Very convenient for those not having a car. Almost downtown, and not far from Rittenhouse Park, where the idle rich lived and congregated.

An Overview of Monotype School Course Subject Matter

These are abbreviated course descriptions—details which Karl received when he arrived at the Monotype School in Philadelphia nearly 50 years ago.

Introduction to the Monotype System. Taught the relationship between the Keyboard and the Caster, including study of the unit system and matrix case. Fifteen hours.

Keyboard Course. Included principles of the Monotype System and how to apply them when setting straight and tabular composition. The touch system of fingering was practiced before a student was allowed to set jobs. Straight matter instruction included 17 lessons in 9 weeks; tabular composition added 27 lessons and an additional 11 weeks.

Composition Caster Course. Demonstrations and hands-on work included: safety, hygienic measures, starting and stopping mechanism, matrix case, mold, wedges, pump, ribbon, water supply, with time allowed for students to operate the caster. Subsequent lectures included disassembling and reassembling of the pump mechanism, matrix mechanism, paper tower, galley mechanism. adjustments etc. Lectures included mold blade operating and sizing mechanism, calculating unit sizes, type sizes, etc. These lectures were on cut-away model casters. First exam after 16 lessons. 450 hours.

A Combination Keyboard and Caster Course encompassed all material of Monotype Keyboard and Caster Courses, as well as operating Keyboard and Caster simultaneously. The program lasted 30 weeks.

Edmund J. Kozlowski, a maven, functioned as the keyboard instructor; George Little handled caster instruction. At times he also made service calls and installed new Monotype equipment throughout the country and the world.

Students There On Someone Else's Money

Ed introduced me to the other students. There was a student from an Atlanta newspaper, another from Kansas City, a caster student from Pittsburgh, two Liberians sponsored by either the UN or the Liberian Government, one student from Burma, two from the Puerto Rico government printing office, and at one time a female agent from the CIA. There were always 6 to 12 students about. Tuition was $20 a week. Most students were sponsored by their employers, but I was on my own. Attendance was voluntary. Whoever showed up, showed on time—it was loose and cool. Instruction was very individual, little of it in classes. It was enjoyable. At times, we went en masse to museums, or sightseeing, or to a ballgame during the day.

Brief Visits to Monotype Factory

A couple of times we visited the Monotype factory on Erie Street. At the time, I don't think they were building the machines any more. What I remember—or what we were shown—was the Matrix Making Department and an Experimental Section. Maybe I just wasn't much interested in the machine shop. Lanston Monotype gave students complimentary tickets to Philies games, and whenever the Philies had a home game at the old Connie Mack Stadium, we attended. Lunch was sometimes extended. Some students behaved like they were on a vacation. Most were already half-baked operators or castermen and were at the school to extend their skills or refresh themselves. It was up to the student to put in the effort.

Beginning Instruction

Ed started me off by handing me the *Straight Matter Composition* book and a stack of handouts for finger exercises. The course was listed as "Keyboard Operating Course (full course). Straight Matter and Tabular Composition." I expected to complete it in about 6 weeks. It took a lot longer.

There were speed tests, until the student was able to set 90 lines of 8 point, 8½ set, 25 pica measure per hour. This was equivalent to 3300 ems. The work needed to be clean, of course. Most exercises were first set without a ribbon and then with.

Written tests on the Keyboard Operation were frequently scheduled. Later exercises: Allowance for initials and cuts; letterspacing; justifying with leaders; 14-and 18-point composition, etc. Then the student took another speed test and was expected to produce 3700 ems an hour.

I was struggling in the course, trying to meet expectations. One day in August, I picked up a discarded newspaper, from a bench in Rittenhouse Park. It advertised for a Monophoto filmsetter operator job. I took the paper to school and showed it to fellow students. Nobody was interested, so I followed up myself. Found the shop, Westcott and Thomson, Inc., a commercial typesetting service for publishers and other printers. Visited with the owner. He offered me a job in his Monophoto filmsetter department.

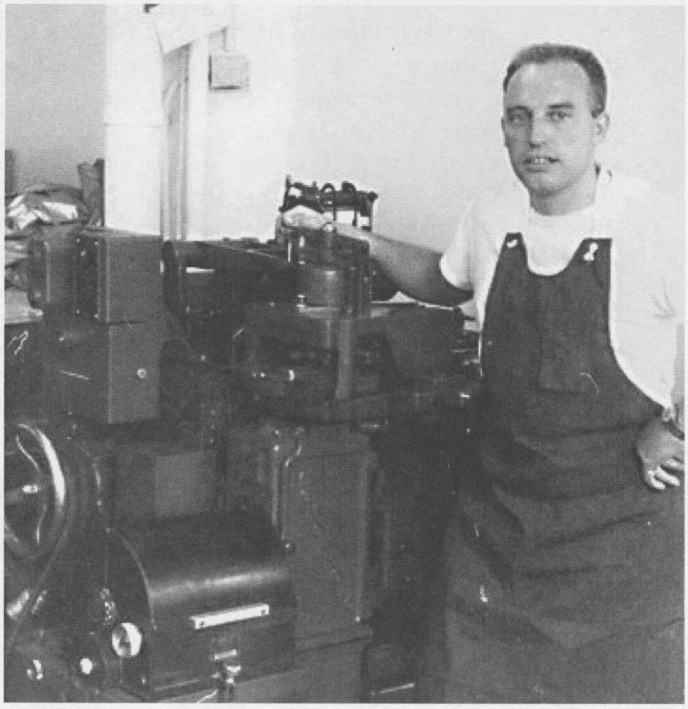
First, I had to apply for a Green Card. Luckily, the job waited. The visa took five months. Meanwhile I

keyboarded and cast the *Monophoto Operation Manual* and many other school handouts. By then I didn't have to pay tuition anymore. Hallelujah. I took all available extra courses while awaiting the Monophoto job. In December 1960, I received my Combination Keyboard and Caster Certificate. Money had almost run out.

First Job Out: Filmsetting!

I then started the job as a Monophoto filmsetter operator. My Monotype School learning wasn't all applicable—but it helped. Subsequently, I worked 30-plus years on the frontlines of photocomposition on different machines and computer front ends. I maintained and operated Intertype Fotosetters, Fototronics, Diatype, Linotron 505's, Linotron 202's and front-end programs from Cora, CSI and Penta.

The end of phototypesetting came very quickly in 1993. Macintosh, Quark, Pagemaker, digitization and RIP's together buried photocomposition real fast. At my last job, I was right there. Being on standby for a week, with a process camera, at the *Daily Racing Form* plant in Hightstown, N. J., just in case. The digital conversion worked perfectly—against all prayers.



Ending his extended stay at the Monotype School, Karl took a job running a Monophoto Filmsetter (above). He never again worked in hot metal. Instead, he ran differing photocomposition systems and was present when it all came to an end with the introduction of Postscript.

The End for Photocomposition

The data-input, the programmers, the typesetters, the paste-up, the camera department and the satellite transmission equipment all were discarded the following week. Editorial took over all remaining typesetting and pagination chores. Much data came from remote sources. All of the ITU people were let go, except three RIP operators. Eventually, the press and mailroom were dismantled, the building sold and all mechanical operations ceased. Everything was farmed out. The editorial and management team chose to live in Phoenix, Arizona. They took their Macintoshes to where golf could be played 360 days of the year. Now what remains of the *Daily Racing Form* is produced by contract printers.

By then I was almost old enough to retire. I worked occasionally as a substitute, attending the RIP's and checked press runs until 1995. I collected unemployment checks in between. Finally gave up working completely, when the RIP's disappeared.

While I was attending school in 1960, the Lanston Monotype Machine Company sold the building on 24th and Locust to National Printing Company. The school moved to 12th and Arch Street, northeast corner. It continued there. I attended there until December, but I don't know when it eventually shut down. Also in 1960, the Monotype main factory on Erie Street in Philadelphia was closed and moved to Downingtown, Pa.

Around that time, the Monomatic was introduced. A brand new, totally different keyboard, supposedly faster, with a quantum leap in flexibility. A new caster design, an 18 × 18 matcase arrangement. Monomatic never made it into the school curriculum. It was adopted by some of the larger Monotype operations, but never had a chance because hot metal was rapidly disappearing everywhere.

TOOLS OF THE TYPEFOUNDER

Though Karl never again worked in hot metal, there remained a soft spot in his heart for his first trade and he retained the tools acquired in his first jobs in Germany. Several of those implements are displayed on page 14—Karl brought several with him to the ATF Conference at Grafton, Ill.

Our Changing Guard

David Holmes

David J. Holmes III, 58, sailor and builder of sloops and schooners, a folk singer and maker of guitars and hammered dulcimers, a letterpress printer and an inventor and designer of binary clocks, died of lung cancer March 13, 1008.

Most recently he lived aboard *Adventure*, a 40-foot schooner that docked in Galesville, near Washington, D. C. The ship's motto was "no sniveling"—one of his behavioral creeds. He once created a "player harpsichord," which was equipped with an electronic box that allowed the instrument to play back, without anyone touching the keyboard, any tune that had previously been played on it.

He had a letterpress printing shop and published four limited edition hand-printed books from 1983 to 1985 and during that period was active with our American Typecasting Fellowship and was intensely interested in developing a computer interface for his Composition Caster. He had experience as a computer programmer and electrical engineer and was well along with development of his interface when the call of the sea compelled him to leave his letterpress activites. For the next several years "we sold everything we had and went cruising," his wife said. They sailed the coastal waters from Maine to the Caribbean and the Bahamas. Cancer took him less than a year after being diagnosed. He is survived by his wife, two step children and three grandchildren.

Extracted from a special article on David Holmes by Bart Barnes in the March 17, 2008, edition of the Washington Post.

John Eickhoff

John Eickhoff, who suffered a fatal aneurism on Monday, October 13, 2008, had lived an unusually varied life and increasingly committed much of his time to saving, casting, and printing from, rarely seen typefaces. Choosing to enter the teaching profession part way through his working life, his earlier experiences in the packaging industry and the merchant navy—life in the real world, beyond the experience of far too many teachers—coupled with his innate patience and generosity, made him outstandingly popular and effective in the classroom. Long after his official retirement he was in constant demand as a part-time maths-master who specialised in helping small groups of the less able and more difficult children in schools across his home city, Bristol.

John's letterpress experience, which began by printing stationery on a tiny Adana H.S.1 , chase size 3½"x2¼", in his teens, matured into a fascination with the evocative nostalgia of typefaces and borders of bygone eras. When the decline of commercial letterpress made Monotype machines largely redundant and thus affordable to enthusiasts, John was one of the few amateur printers brave enough to buy and learn to operate these complex beasts. Not content with merely casting the more obvious 'classic' typefaces, he sought out some of the most obscure matrices produced and made type and fleurons cast from them available, alongside the classic bookfaces, to others through his Acorn Typefoundry. Acorn's regular clients included The Sealed Knot, a nation-wide group of enthusiasts who specialise in re-enacting famous battles of the Civil War between Oliver Cromwell's Puritan Parliamentarians and the Royalists of Kings Charles I and II. John cast for them many cases of Old English Text—the nearest in the Monotype repertoire to types of the 1640s—for use in their newsletters and other publications. Over the last couple of years his collection of type, equipment and matrices has been distributed amongst his many friends and fellow enthusiasts across the world, some donated to The Type Museum, as he recognised the limitations of declining health and strength. Mentally undaunted however, he had recently enrolled for a course of Spanish lessons and had attended a class before meeting his wife, Sue, in the city centre for lunch on the day of his death, collapsing enroute from the restaurant to his car.

Beginning in 1990, John was associated with our American Typecasting Fellowship and often exchanged matrices and other paraphernalia with his American friends.

An active member of several printing-related societies including The British Printing Society, which he served as secretary for some years, and The Oxford Guild of Printers. He was an enthusiastic contributor to collaborative ventures such as *It's A Small World*, The Letterpress Exchange Group, The B P S Publishing Group and The Oxford Guild's Millennium Collection. John will be missed by innumerable fellow enthusiasts—and ex-pupils—across the world. None however will miss him more than his wife Sue, who for years regularly accompanied him on the 150-mile round trip to attend monthly meetings of the Guild in Oxford.

Prepared for the ATF Newsletter *by John R. Smith of the Old Forge Press, Adderbury, Oxfordshire, England.*

Gerald Giampa

You will notice the centerfold of this edition of the *Newsletter* is dedicated to the memory of Gerald Giampa. In recent years he moved from Vancouver on the west coast of Canada, to distant Prince Edward Island on the east coast. For a period thereafter, he was in one of the Scandanavian countries, and also had residence in other parts of the world. Gerald Giampa headed up a failed effort to obtain the remnants of Lanston Monotype from M&H Type with a goal of continuing the manufacture of composition matrices. That ended when he left Vancouver with punches, patterns, matrix inventory plus several pieces of specialized equipment only to have everything destroyed in a tidal wave which innundated his quarters at Prince Edward Island.

He is best remembered for his marvelous talent in handling Monotype ornaments, combining them in meticulous and beautifully printed multi-colored designs, often resorting to separating designs into two colors and electrodepositing mats so that he could reproduce all individual elements in the large volume necessary for his work, using his Monotype casting equipment. The piece you see at our centerfold was patterned largely from a piece he had done earlier. Another stunning piece of his work was displayed as the cover of the November, 1984 edition of this publication, the *ATF Newsletter.* That cover is prominently displayed in most website material dedicated to Gerald's memory.

Thomas R. Volker

Straight out of Polytechnic Institute, Tom Volker went to work for Baltimore Type and Composition Company, and remained with the firm until it was closed by the IRS in the late 1970s. Thereafter, he, his brother Tom, and Herb Czarnowski, his uncle and former vice-president at Baltotype, formed Volker Brothers type foundry, which they operated for several years using equipment purchased at the forced auction of Baltotype. Tom passed away at the age of 79 December 3, 2008. Not able to acquire casting equipment at the auction, the three acquired a "red-painted gas-fired Thompson" from Rich Hopkins and used it extensively at Volker Brothers. When it was decided to close Volker Brothers, all their equipment was sold to Rich Hopkins. "When Tom and Bob came to Terra Alta to pick up the caster, they taught me more about both my Composition Caster and my Thompson in two hours than I had been able to glean in the previous 15 years," Rich commented on hearing of Tom's death. *This information was provided by Guy Botterill.*

Gordon Sullivan

Barry Schrader reported to fellow hobbyists of Gordon's death September 12, 2008, at the age of 74. He was proprietor of the Roaring Dragon Press of Pacifica, Calif., and had attended ATF Conferences held in California. He acquired a pivotal caster and several unique matrix fonts from Andy Soulé, an early ATF member, when Andy sold his typecasting facilities. Gordon, however, never got the equipment back into operation and its fate is unknown.

Step-by-Step Procedure in Developing a Border Matrix Set

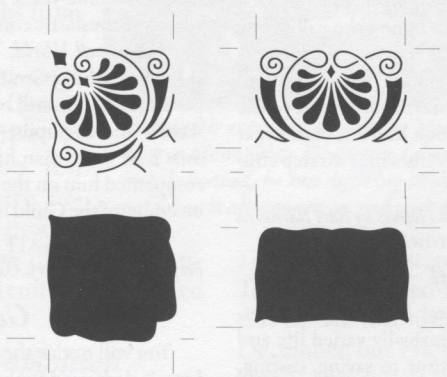
The combined efforts of Rich Hopkins and Jim Walczak has brought a new border design into the letterpress printing realm. Rich started the project by becoming intrigued with a design on a game board as he indulged playing with family members. It was called "Pente" by Parker Brothers. "I since have discovered such a design wasn't too unique—the ancient Greeks often used similar elements." (See Owen Jones' book *The Grammar of Ornament*).

The drawings were done in Corel Draw and forwarded to Jim Walczak of Oxon Hill, Md., who engraved the matrices.

"I scanned a print which Rich forwarded at 400 dpi and printed it out on NCR transparent stock, reversing the image to make white art on a black background, and also allow the 'emulsion' to be in direct contact with photopolymer material. I exposed for one minute, developed in 90 to 100 degree (F) water, dried with a paper towel and a hair dryer. Finally, hardened it for 30 minutes under the UV light. Afterwards I carefully set up my pantograph using limit lines on Rich's design and a blank matrix, establishing standard Lanston positioning of the image on the matrix.

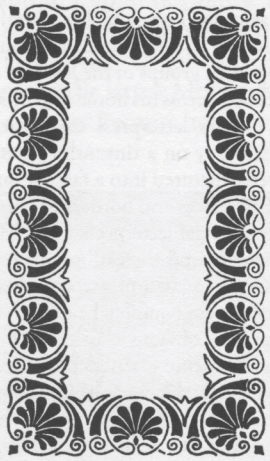
"The thin lines on the pattern measured .024"; with a 4:1 ratio the lines reduce to .006", hence a .006" cutter was used, hand-honed with hard Arkansas stone to near 15°. I first engraved the counter using a pattern provided by Rich, cutting it in two .015" deep steps. The design itself was cut in two .010" steps. Depth of drive measured to .051" when finished, so I faced the matrix on 320-grit Norton A273 'Adalox' sandpaper (stuck to a marble slab) until the depth of drive was precisely .050"," Jim explained.

Rich's plan was to cast the two matrices on his new Koike caster which is equipped with knives to trim all four sides of the cast image. He designed the counter patterns to give greater underpinning via a more shallow engraved depth to facilitate the flow of metal within the design. He also extended the designs beyond the outer edges of the proposed finished dimensions to allow the cast features to be trimmed flush with the edge of their bodies. This was a good plan, but in many instances the trimming knives actually broke off the extensions rather than trimming them. Thus, he has cast samples and hand-dressed them to assure the triangular flower outline will appear as a whole when the characters are placed side-by side.



Two border drawings, guide lines, and counter designs (very much reduced).

"Just like the boys in the old days, I am going to take these very best dressed castings and electrodeposit a set of new matrices so that in the future, I can cast the design with no need for trimming and the inherent potential for breaking the thin lines at the edge of the characters," Rich explained.



Specimen casting of the "Game Border." The corner is 30 points square. The "runner" is 24x36. Broken points are evident in some places where the triangular flower is supposed to be formed with half its image on each cast character.

Gerald Giampa

1950-2009

Gerald Giampa, typographer, fine letterpress printer, and pioneer in the conversion of metal to digital type, has died in Vancouver following a massive stroke. He was the former owner of the Cobblestone Press, Northland Letterpress Company, and the Lanston Type Company. Giampa Bodoni 26 (selected among the top 100 types by the Type Directors Club), Obelysk, Jacobean Initials, and the Water Garden Ornaments. His unique work continues to inspire others.

He is a very adroit and gifted craftsman especially in the way of using typographic elements in new, original, and pleasing ways.

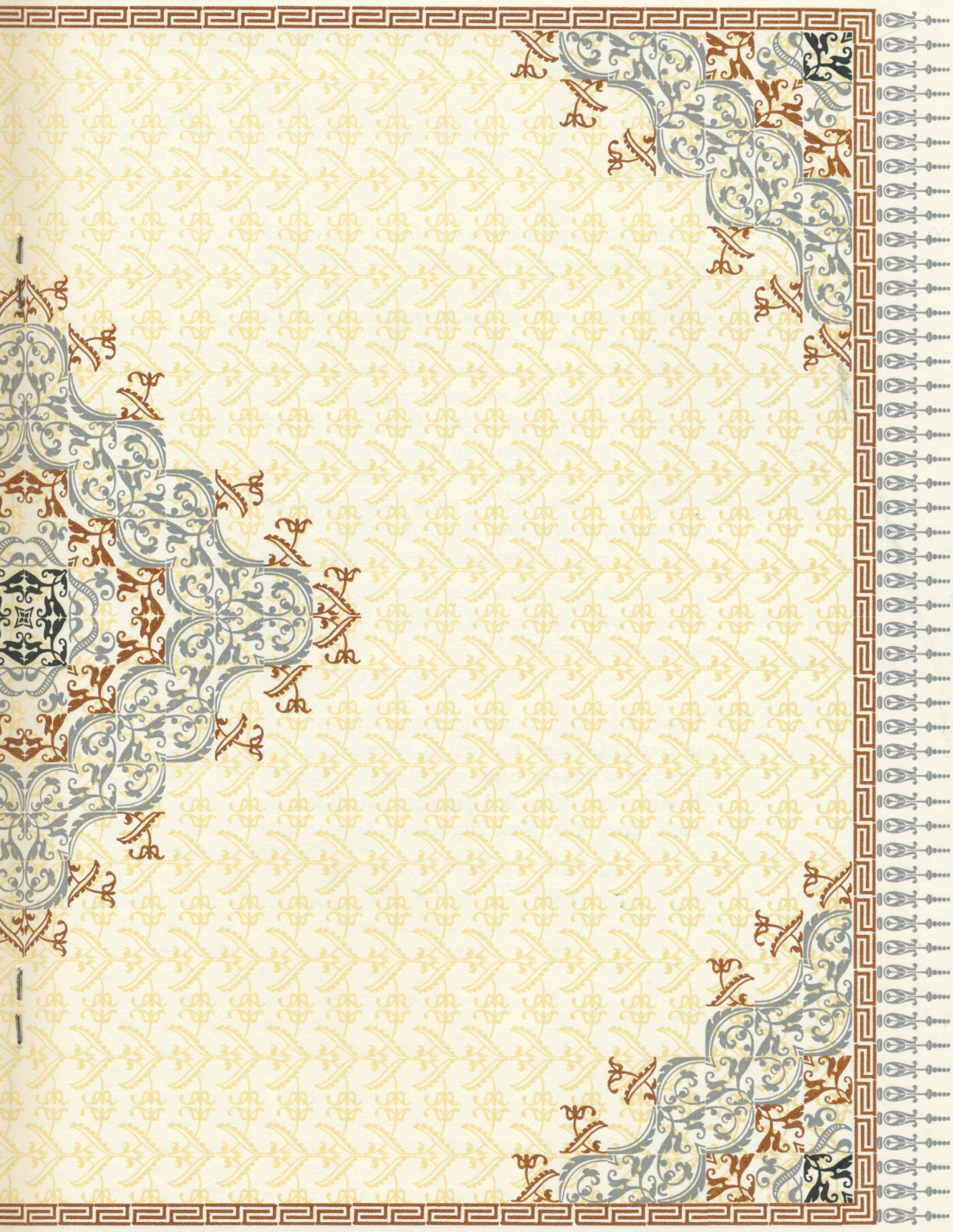
—Paul Hayden Duensing, TYPEFOUNDER

His typographical taste and colour sense are outstanding. His use of ornament is unparalleled and has been compared with that of Bruce Rogers. He is a fine pressman and compositor, and is well practiced in the operation and maintenance of Monotype casting machines.

—Jim Rimmer, TYPE DESIGNER

Gerald is a skilled and experienced letterpress printer. For example, he contributed a multi-color cover for one of the ATF publications that was a marvel of both the typefounding and printing arts.

—Stan Nelson, SMITHSONIAN INSTITUTION



Gerald Giampa is especially original in his choice and combination of various coloured inks, and also in the skill with which he eliminates parts of a flower in order to obtain a simpler and more striking effect. He super-imposes colours with great subtlety, so that they blend in the most harmonious way. He succeeds because he plans his effects with meticulous care. His handling of printers' flowers combines knowledge and skill with taste & judgement. So my final typographical bouquet goes to the printer of these lines, to whom the words of the prophet Ezekiel (8:20) can be aptly applied: for the beauty of his ornament, he set it in majesty.

—John Dreyfus, PRINTING HISTORIAN

He is a letterpress printer of great skill. His work with printers ornaments is, I believe, unsurpassed among contemporary printers.

—Sumner Stone, TYPE DESIGNER

Inspired by the unique and extraordinary work of Gerald Giampa, the design, typecasting and printing of this piece was completed by Richard Hopkins and Ethan B. Lipton at the Hill & Dale Press, Terra Alta, West Virginia. August 2009

Originally produced as an insert
for the ATF Newsletter.

19th-Century Type Designers Featured in New Book

By David M. Norton
Syracuse, New York

Loy, William E., *Nineteenth Century American Designers and Engravers of Type*. Edited by Alastair M. Johnston and Stephen O. Saxe. New Castle, DE, Oak Knoll Press, 2009. 161 pages, Illustrated, $49.95.

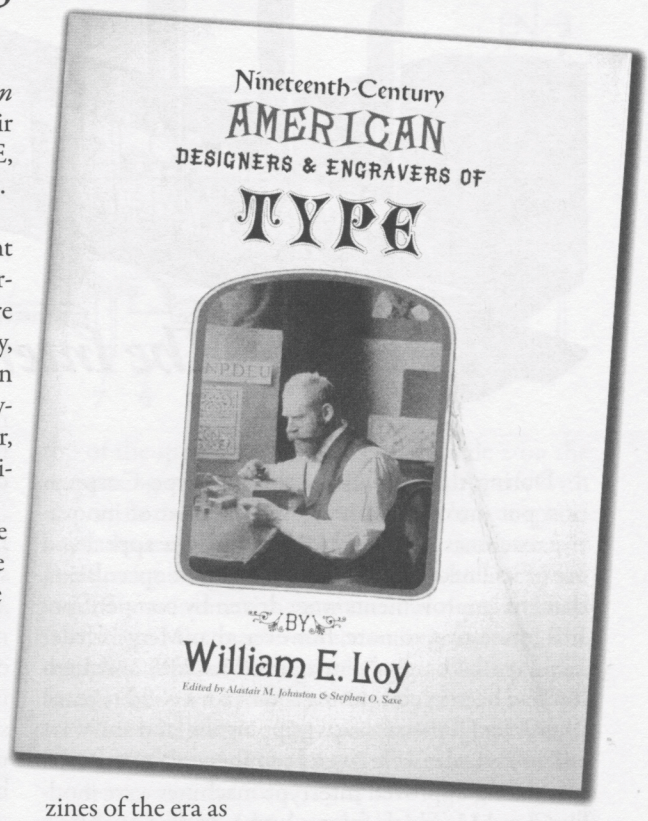
Loy, a printer, publisher, printing equipment salesman, and expert on type history, wrote 28 articles about type designers and engravers that were published in *The Inland Printer* between February, 1898, and June, 1900. These articles, based in part on correspondence with the subjects, in addition to giving a short biography of each designer or engraver, listed type faces, ornaments and borders each individual designed or cut.

These articles form the foundation for this, the first book to cover 19th century American type faces in detail. To avoid confusion, we should note that Loy's "engravers" are generally known today as punch cutters. Johnston and Saxe have both published works on printing history previously.

For this book Johnston has written a chapter on Loy which includes reprints of several letters between Loy and the subjects of his articles, in addition to biographical data. Saxe has written a chapter entitled "Loy's Nineteenth-Century Type Designers" which explains punch cutting, striking matrices, and casting type. Foundries that were combined to form American Type Founders and their dates of operation are listed. An early ATF chart of the American Point System shows sizes from 3 to 72 point and gives the MacKellar, Smiths & Jordan pre-point-system name for each size. Some other foundries used slightly different names.

Illustrations of more than 800 type faces, ornaments and borders are included with Loy's articles, including many not listed in the articles. These additions are based on information gleaned from trade magazines of the era and patents.

The title of the "Patent Index" is misleading. It contains unpatented faces attributed to the subjects of the articles, as well as their patented faces. In instances where an officer of a foundry claimed all patents for faces issued by that foundry, the designer is also listed, if known. Dates for some unpatented faces differ from those given in Dr. James Eckman's articles on type foundries, published in various trade magazines years ago. Both authors used trade magazines of the era as sources—differences apparently are the result of their using different magazines. Some magazines carried notices of new releases as soon as they were designed; in others, new faces first appeared in ads after a series of sizes had been cut and cast.

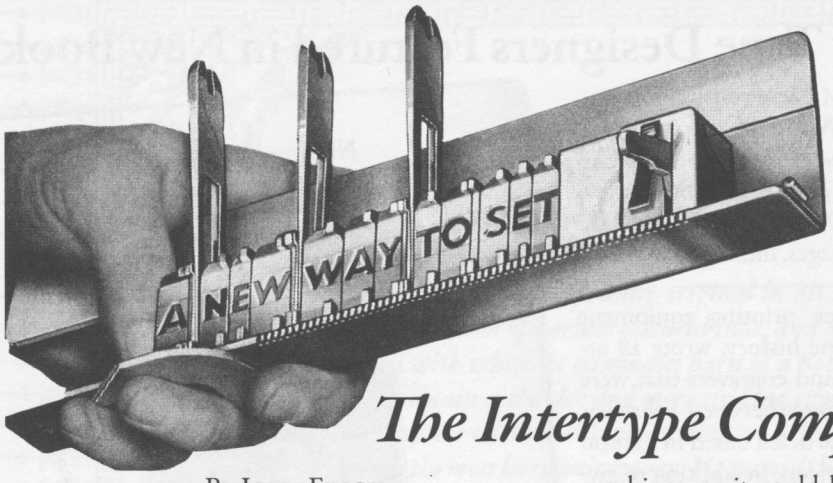


If a face appeared at different times under different names, all names are listed alphabetically in this index, with a cross reference. For example, the same face is listed as Black Ray Shaded, Ornamented No. 529, and Ray Shaded Black—all these names appeared in various specimen books from the Bruce foundry.

No page numbers are given in the patent index: it carries the names of type, border, and ornament designs, the designer's name and date of patent or, when available, date of release of unpatented faces, and the name of the foundry casting the type. *Only materials designed by Loy's subjects are included.*

The "Typeface Index" gives the page numbers on which the various faces are discussed or shown, separating them from the "General Index" that locates things other than designs.

The reviewer is a retired professor of graphic arts who has written extensively on antique type.



With the addition of a hinged first-elevator head for quick insertion and withdrawal of lines hand-set in a composing stick similar to a hand composition stick, and a modified first-elevator cam and a unique starting and stopping mechanism, any Intertype machine could be enabled to cast hand-assembled mats up to 60 point.

The Intertype Composing Stick

BY JOHN FINCH
Palmer Lake, Colorado

During the early 1930s the Intertype Corporation put into the marketplace a number of innovative machines and devices to broaden the appeal and use of its linecasting machines. It is pure speculation that the improvements were driven by competition. It is interesting to note, however, that Mergenthaler Linotype had already introduced its APL and Ludlow had been in composing rooms for a good 15 years. The Great Depression was gripping the land and ways to increase sales were given prominence.

Among improved Intertype machines were models G and H, which from a keyboard could set type up to 36 point. The model G had provision for both 90-channel (normal) and 72-channel (wide) magazines. As described in literature of that time, the model G was known as a "combination text and display mixer machine." Model H, a non-mixer, was designed especially for headline and display composition with four wide 72-channel magazines. Both machines could accommodate 30- and 36-point full-width display faces. This was a tremendous development, for until that time, these sizes had to be hand-set using foundry type, or hand set on the Ludlow.

To compete with the Ludlow, Mergenthaler Linotype Company developed the APL (All Purpose Linotype) in 1932. This was a stand-alone machine consisting of the casting unit of a conventional Linotype without a keyboard or magazines. Mats were hand-assembled into a "stick" which was then inserted into the machine for casting. As with the Ludlow, hand distribution was required. Mats in sizes 6 thru 144 point could be used. Special mats in sizes 36 thru 144 points were made just for the APL.

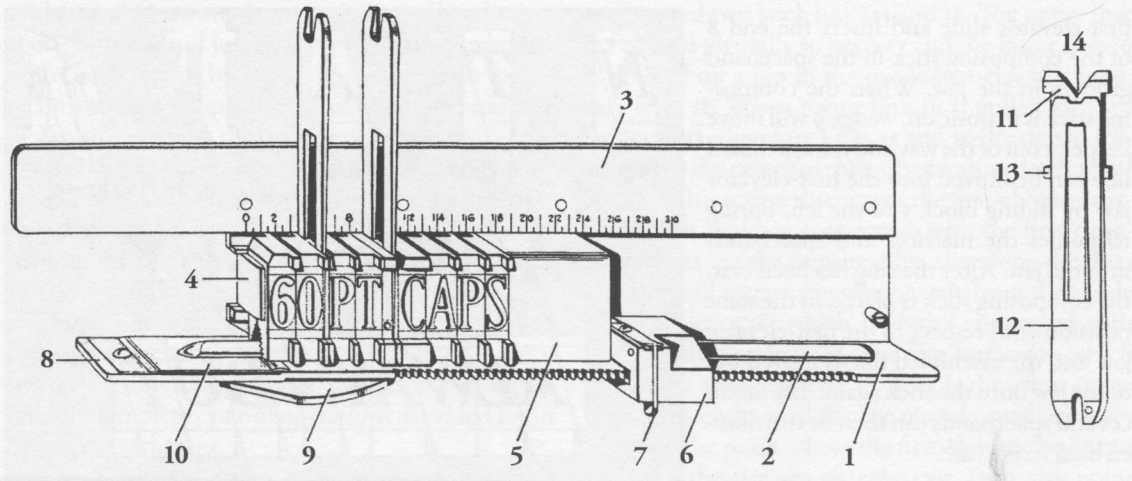
Intertype answered these two machines with a "Stick Attachment" in 1933. This was for existing machines, or it could be factory-installed on new machines. This attachment made it possible to produce both text and display type on a single machine.

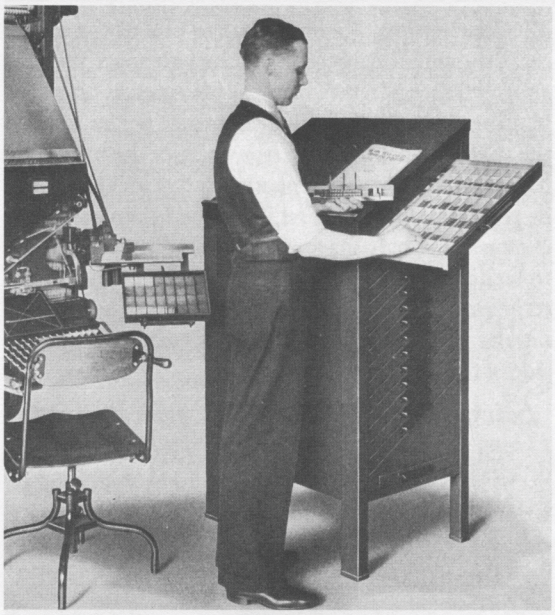
Quoting from the 1943 *Intertype Book of Instructions*: "The stick attachment provides a mechanism suitable for casting hand-set lines in all sizes up to and including full-width 60-point caps. The attachment has a wide variety of uses, the most important of which is casting of one-, two- and three-column newspaper heads and other display lines on one-piece slugs. This eliminates the time-wasting process of fitting separate slugs, and makes available display faces beyond the range of keyboard operation."

Another dubious "advantage" was claimed for "making corrections quickly without shifting or replacing magazines. The corrected line is assembled by hand in a special composing stick and is inserted in the hinged first elevator head. When the operating lever is pulled out, the first-elevator descends for the cast in the regular way, then returns and stops immediately at normal position without rising to transfer position. The line of matrices and spacebands, therefore, can be removed from the first elevator almost immediately following the cast, without waiting for the machine to come to rest." It was claimed this saved time, but picking loose matrices from a galley or even an uninstalled magazine surely was a major time-consuming factor.

The Composing Stick

The composing stick used with the stick attachment is shown above. The stick is shaped suitably for rapid hand assembling of Intertype matrices and spacebands and contains a sliding arrangement which facilitates the insertion of the line in the first-elevator jaw. The stick consists of the composing stick body 1, a matrix guide 2 and a gib 3. The line of matrices and spacebands is assembled in the conventional





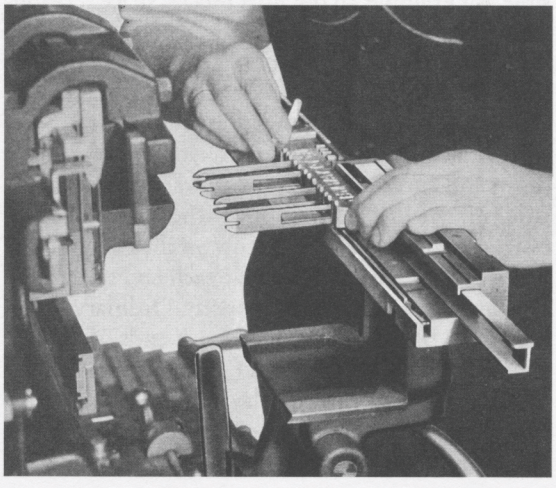
way from left to right. The first matrix in the line is placed on the body 1 against the keeper 4 and the succeeding characters are arranged in their natural reading order. The matrices are assembled face upwards with the triangular tooth recesses straddling the matrix guide 2. The lower edge of the gib 3 acts as an additional guide for the matrices.

Special spacebands used with the stick attachment are easily assembled and are held positively in the composing stick. A spaceband of this type is shown in the detailed drawing top right. The spaceband consists of a sleeve 11 and a wedge 12. The sleeve on this type of spaceband differs from other types in that it is provided with two lower lugs 13. These lugs hold the spaceband in position when the line is justified prior to the cast. The triangular recess 14 at the top of the spaceband sleeve fits over guide 2 on the composing stick and aligns the sleeve properly with respect to the matrices. The stick attachment spacebands have a wide expansive range to insure proper justification of large display lines in which they are used. The minimum measurement of the spaceband is .070" and the maximum measurement, .164". The complete expansive range of the spaceband, therefore, is .094", or slightly less than 7 points.

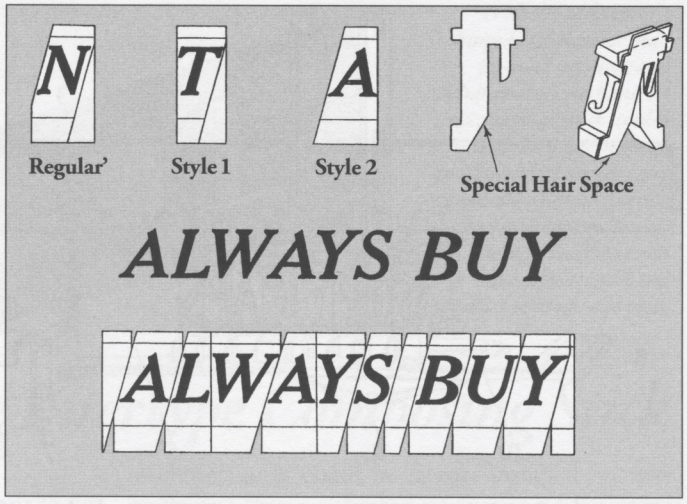
When the matrices and spacebands have been assembled in the stick, the length of the assembled line can be determined instantly by moving slide block 5 and detent block 6 against the line. The length will then be indicated by the scale on gib 3, which is divided in half-em increments. Detent 7 in block 6 registers with notches in the composing stick body and locks the setting of the line at the desired length.

Placing Stick In Casting Machine

To insert the line in the first-elevator jaw, it is necessary simply to swing back the hinged head of the



first-elevator slide and insert the end 8 of the composing stick in the spaceband grooves in the jaw. When the composing stick is in position, wedge 9 will move keeper 4 out of the way and the assembled line can be moved into the first-elevator jaw by sliding block 5 to the left. Spring 10 guides the matrices and spacebands into the jaw. After the slug has been cast, the composing stick is placed in the same position with respect to the first-elevator jaw and the assembled line is moved out of the jaw onto the stick again. The matrices and spacebands can then be distributed back to the case.



Display Italic Matrices & Spaces

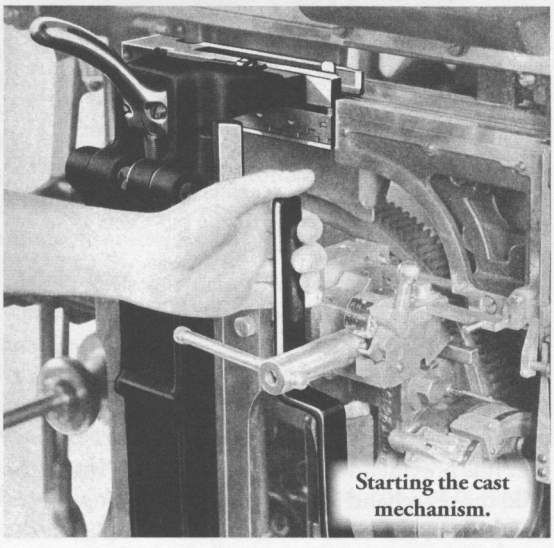
Special display italic matrices used with the Intertype composing stick are shown at right above. These matrices, as well as hair spaces, end quads and other equipment used with the stick attachment are exclusively of Intertype design. The display italic matrices are of a special oblique construction which makes it possible to fit the characters closely together—casting proportioned characters and precise spacing as required in good typography.

The mats shown above illustrate the three types of angular construction provided for close fitting of characters. The regular construction consists of an angular cut on each side of the matrix. This construction suffices for most characters and makes it possible to obtain the proper space relationship between the characters. In addition to the matrices of the regular construction, caps T, V, W, and Y are furnished with every font in style number 1 and caps A and L, in style number 2. Matrices in style number 1 have an angular cut only on the right side as shown. This makes it possible, for example, to obtain a precise space relationship between cap W and L, a cap W and A, etc. Style number 2 matrices have an angular cut only on the left, as illustrated. An accurate relationship between caps A and Y, L and W, etc. is thereby obtained.

Special opening and closing quads are provided to begin and end the line. The quads are shown in position in the line shown above. These quads fill the openings caused by angular cuts on the two end matrices and square off the line at each end so that the vice jaws can lock the line properly. Ordinary spacebands can be used at either or both ends of the line if space permits. Hair spaces (.014" and .028" wide) are made for use with display italic matrices in order to obtain correct spacing between words. Other spaces are available in 6, 8, 10, 12 and 14 point widths. The relationship of a hair space to one of the matrices is shown. The lower lug of the hair space fits into a formed recess in the matrix. This recess is provided in all matrices with angular cuts and serves to hold the space in position. The front part of the hair space follows the shape of the matrix and is locked tightly in position when the line is justified preparatory to the cast. The hair space is provided with a small tab to facilitate handling when inserting it in the line or removing it. If justified composition is being set, the regular opening and closing quads are placed on each side of the spaceband.

Stick Attachment Operating Mechanism

The special movements of the first-elevator slide occur only when the stick attachment operating lever is pulled out. When regular keyboard composition is being done, the first elevator and other parts



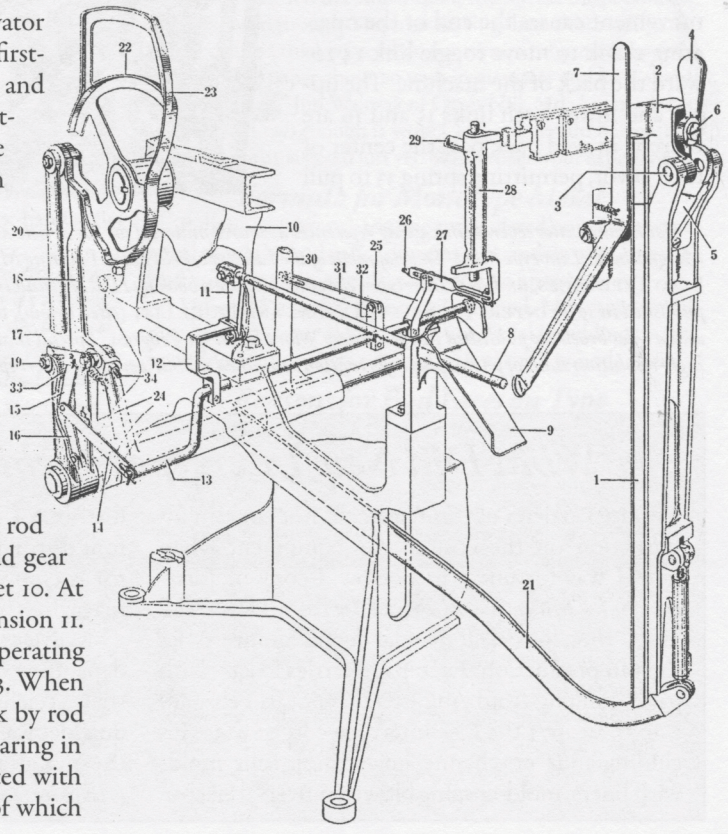
Starting the cast mechanism.

of the machine move through their usual cycle. Automatic spaceband justification of all lines, whether set by keyboard or by hand, is provided with the attachment. Special spacebands of exclusive Intertype design are used with the large display faces.

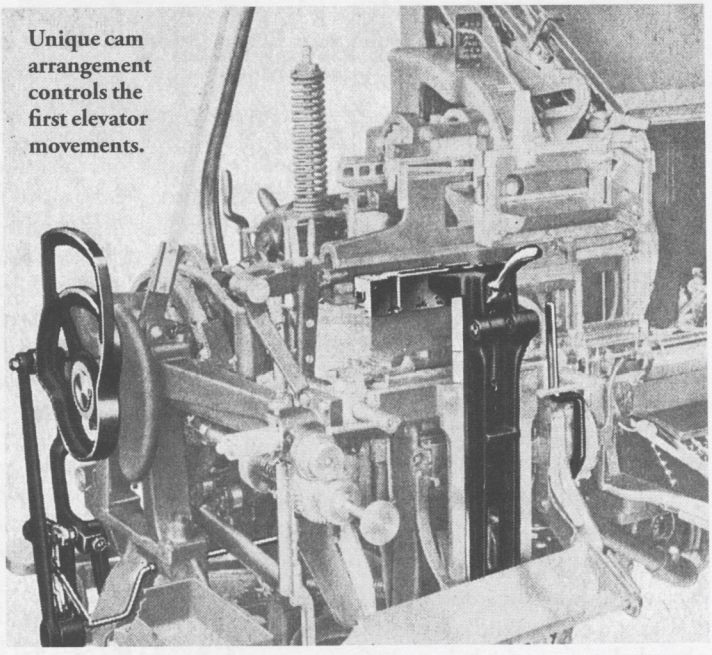
The assembled operating mechanism for the stick attachment is shown in Fig. 96. The mechanism consists principally of parts for transferring the movement of the first-elevator slide from one cam surface to another and auxiliary mechanism for starting the machine. Both of these movements are controlled by a single operating elevator at the front of the vice frame. It is necessary only to pull out the lever to obtain the complete cycle of operations provided for in the stick attachment.

The first-elevator slide 1 (see drawing below), is supported in the conventional way on the vice frame. The slide is held in position by two gibs, which guide the slide in its upward and downward movements. The first-elevator slide used with the stick attachment differs from the regular slide in that it is provided with a hinged head 2. The head is provided with pins 3 in the first-elevator slide, making it possible to swing the head out to a horizontal position with respect to the slide after handle 4 is swung to the left. This facilitates the insertion of the line of matrices and spacebands in the first-elevator jaw. After the line has been inserted, the first-elevator head is moved back to position and is locked rigidly with respect to the first-elevator slide by the lower end of handle 4. The end of the handle is provided with a beveled surface which drops in front of a formed surface on lock 5. A coil spring around stud 6 causes the locking action of (the) handle.

The main operating lever, as stated previously, transfers the movement of the first-elevator slide from one cam surface to another and starts the machine. The lever 7, is pivoted on a stud in the vice frame. When the lever is pulled back, its lower end banks against rod 8, which is supported freely in the mold gear arm support 9 and the cam shaft bracket 10. At the rear end of rod 8 is fastened an extension 11. The extension is fastened pivotally to operating crank arm 12, which is keyed on crank 13. When extension 11 and arm 12 are moved back by rod 8, therefore, crank 13 is turned in its bearing in the machine base. The crank is connected with a toggle operating link 14, on the end of which are pivoted two latch links 15 and 16. The upper link is fastened pivotally to latch 17 and the lower link 16 is pivoted on a pin in the inside first-elevator auxiliary lever 18. When toggle link 14 is pulled forward by crank 13, therefore links 15 and 16 are drawn forward past the center of their pivot, raising latch 17 off stud 19. This action disengages the first-elevator auxiliary lever 20 from connection with the first-elevator lever 21. As the cams revolve, therefore, the first-elevator will receive movement only from the inside auxiliary lever 18, which is always connected with the first-elevator lever 21. The cam surface on which the inside auxiliary lever 18 rides is the same as the cam surface provided for the outside auxiliary lever 20 up to the point where the first-elevator begins to rise from the vice cap after the cast. From this point on, the low contour of cam surface 22 raises the first-elevator to normal position, where it stops with the first-elevator jaw opposite and in alignment with the delivery channel. The outside auxiliary lever 20 is held in contact with the high cam surface 23 by spring 24. This lever, however, has no effect upon the movement of the first-elevator slide at this time because it is disengaged from the first-elevator lever when latch 17 is raised, as previously described.



In addition to transferring the movement of the first-elevator slide from the regular cam surface 23 to the low surface 22, the main operating lever 7 also starts the machine. Operating crank 13, as previously stated, is turned by rod 8, extension 11 and arm 12 when the main operating lever is pulled out. Starting lever 25 is fastened on crank 13. When the crank is turned, the pin in the upper end of the starting lever banks against screw 26 in link 27. The link is attached by a pin to the lower end of the vertical starting lever 28. Backward movement of the link swings the vertical starting lever on its shaft. This causes the lug 29 on the lever to move the automatic stopping pawl in the delivery and elevator transfer cam off the upper stopping lever, permitting the clutch to operate and the cams to revolve. When the ejector lever 30 moves forward, the parts of the stick attachment are returned to normal position. The ejector lever is connected with reset lever 32 through link 31. The reset lever is fastened on crank 13. When the ejector lever moves forward, therefore, crank 13 is turned in a clockwise direction by link 31 and lever 32. This movement causes the end of the operating crank to move toggle link 14 toward the back of the machine. The upper and lower latch links 15 and 16 are thereby moved back past the center of their pivot, permitting spring 33 to pull latch 17 back to position over stud 19. This reconnects the outside auxiliary lever 20 with the first-elevator lever. Therefore, the first-elevator will rise to transfer position if the machine is operated in the conventional way, because its movements will be imparted by the outside lever 20 and cam surface 23. In other words, a machine equipped with the stick attachment is instantly available for special display composition or for regular keyboard composition simply by transferring operations from the keyboard to the casting mechanism.



Unique cam arrangement controls the first elevator movements.

John Finch cites several linecasting references as source material for the article above. Those items include a promotional poster by Mergenthaler Linotype titled "Development of the Linotype, held at the Printing Museum, Carson, California, and the "big red book" LINO TYPE FACES, *undated. Intertype references include a book by H. R. Freund titled* THE DEVELOPMENT OF THE INTERTYPE, *published in 1937;* INTERTYPE SALES MANUAL AND PRICE LIST *(cited below), the 1943* INTERTYPE BOOK OF INSTRUCTIONS, *and a sales brochure published in 1934 titled "More Intertype Progress." Special thanks go to Jim Daggs of Ackley, Iowa, for providing high-resolution scans of photos plus information contained in that very rare Intertype brochure.*

What Did New Intertype Machines Cost in 1971?

Often articles of this nature do not contain information on the cost of the equipment when new. I was fortunate to borrow a copy of *Intertype Sales Manual and Price List* from Dave Seat. The 6-ring, loose-leaf manual details all Intertypes then in production. Each page carries a date, with pages ranging from August 22, 1960, to February 1, 1971. In 1971 the C-4 intertype cost $23,250, including four 90-channel magazines, four molds with liners, mold-cooling blower, universal ejector, distributor signal light, 30 spacebands, automatic font distinguisher, electric pot, variable speed motor assembly, manual magazine shift, front removal magazines only.

Matrices were extra, ranging from 39 to 63 cents depending on size. Mats for hand setting with the stick attachment were $2.65 each. An automatic quadder was an extra $1,745, pig feeder $96.50, and the stick attachment factory-installed cost $204.50. *(All prices 1971 dollars.)*

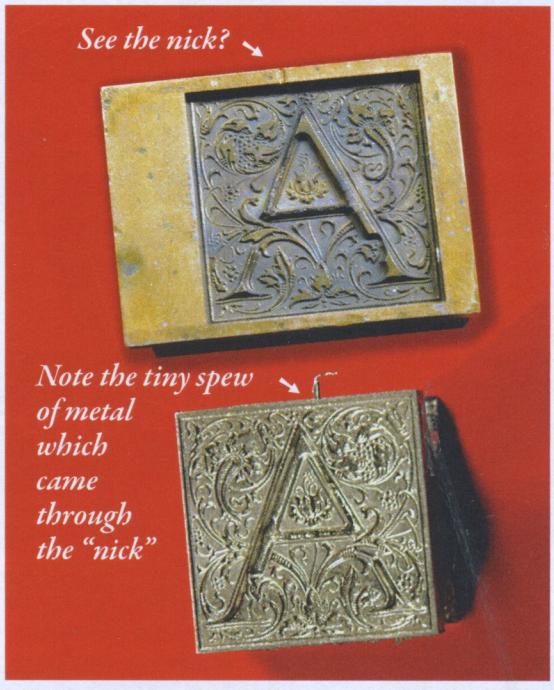
Some Typecasting Speculation and Other Obscure Information

Just because you have a perfect casting machine and a matrix, there's no guarantee the matrix is going to fill with metal during the cast just as you want it to. Especially larger matrix sizes (65-thousandths drive) in my collection show all sorts of manipulation being done with the areas around the image, with the caster operator whittling away areas of the shoulder to give the metal a better chance of getting into thin crevaces, especially in the extremities of the letters.

All casting operators are aware of the presence of air in the mold, and the constant battle to get it *out* of the mold when metal is being injected. The perfect cast dissipates the air into tiny pockets of compressed air, meaning a bunch of tiny bubbles throughout the cast character's body. (That's why often foundry-cast type "explodes" when it is melted—the compressed air pops as the letter is melted.) An imperfect cast ends up with a large bubble of air directly underneath the face, meaning the character is liable to "cave in" when exposed to pressure by the printing press.

The photo at right shows an old Lanston electroplated mat (72 pt. Cloister Initial A) which has been purposefully nicked at the top edge, an apparent effort by some long-forgotten operator attempting to improve the cast by creating a "vent" for the air to escape the mold. The cast also shown reveals a perfect face, so perhaps the "vent" helped get the air out? The tiny spray of metal which followed the air through the vent is easily dressed off the finished character.

This is speculation, but totally logical in my mind. On the other hand, apparently it wasn't needed on other letters, for this is the only mat in the font so nicked.



Drossing Your Pot

I have heard all sorts of magical formulas for getting the dross on a metal pot minimized with the least amount of effort. Borax, slices of raw potatoes, Imperial Vitaflux (now getting very difficult to find) and lots of other things, but Mike Anderson and I helped Bill Riess at Quaker City Type, Honey Brook, Pa., make pigs recently and I witnessed first-hand their magical solution at work.

Use simple beeswax. Throw a chunk (about the size of two rolls of quarters) into a heaping pot of metal after it's all melted. Let it cook a bit. Stir the metal vigorously as the beeswax melts. Keep stirring. Use a ladle to scoop up the remaining dross. Grind this dross in the ladle vigorously with something rounded on the bottom like a huge spoon to approximate the shape of the ladle. In a very short time you'll pour off the reclaimed metal. All that will remain is a black powder—the ultimate goal of any drossing operation. (Note this stuff is hazardous and must not be casually thrown away.) The sad note is that beeswax is difficult to come by as a result of a huge loss of bee population due to some sort of virus or fungus which hit the bees last year. Keep looking, though, and you're likely to find some beeswax.

Monotype Pump Thread Compound

Early Lanston Monotype literature was generous with hints of how to do things yourself rather than buying a premade product from Lanston or some other vendor. Instead of buying their pump thread compound, you could make your own. An undated technical bulletin (No. 8) Lanston published probably 100 years ago tells how: "Heat some beeswax in a pot over the fire until it becomes liquid; then while the beeswax is still liquid add enough Graphite, stirring them thoroughly, until it becomes a thick paste, then pour into a tube, made by rolling a piece of paper about an inch in diameter and let it stand until hardened." Jim Walczak of Oxon Hill, Md., has tried this formula and says though it works, he's not certain he's gotten the procedure mastered just yet. What's been your experience?

Formula for Monotype Metal

Bulletin 18 (also an early one and undated) says Monotype metal should be lead 72%, antimony 19%, and tin 9%. Long run stuff, increase antimony up to 26% and tin up to 16%.

Using old foundry type metal: A good, Monotype metal may be made from old foundry type metal by adding to 100 pounds of foundry type 5 pounds of lead and 2 pounds of tin.

Reasons for Bad Faces on Type

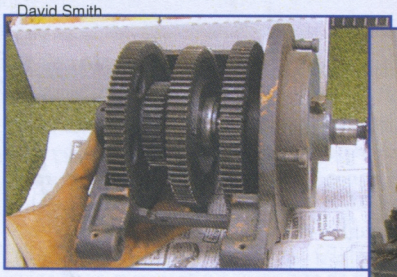
Bulletin 86 gives this brief rundown of causes: Cold metal (top of mold and matrix chilled by cold draft), oil on the face of the matrices, mold leaking metal on top or underneath the mold blade, bad metal (usually remedied by addition of up to 3% tin), defective matrices, dirt in the matrices, a clogged nozzle (drill it out), or too much water.

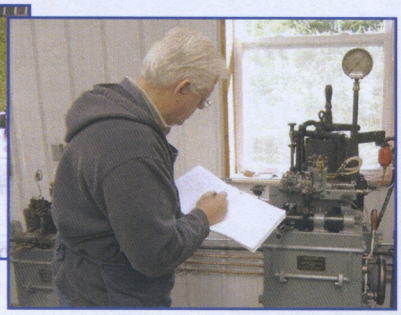
The Source for This Infomation?

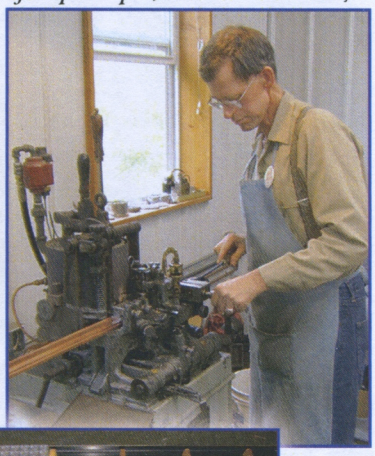
A hodge-podge of several dozen early Lanston technical bulletins, all nicely bound together, sized roughly 3¾x6¼x3 inches thick, was loaned to me by Richard Mathews of the University of Tampa Press. These bulletins apparently were prepared for Monotype technians, not the general public. There's a detailed list of standard Monotype screws. That one will be extracted for a future *Newsletter.*

Thompson Tech

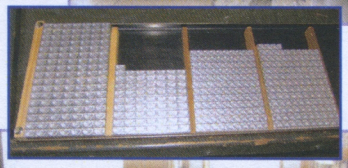
Immediately following the 2008 ATF Conference, these four students joined Sky Shipley for a week-long session covering all aspects of Thompson Typecaster operation. Sky is at the left, followed by David Smith of Bloomington, Ind., George Hamilton of Vienna, Austria, Stan Nelson of Ellicott City, Md., and Bill Welliver of Wapwallopen, Pa. Photos by David Smith







Instruction began with the main driving gears, extracted from far inside the machine. Stan Nelson, studying the caster up close, takes copious notes. At right Sky demonstrates adjusting the Rails for the Matrix Holder. The galley full of freshly cast ornaments proves that yes, they did make a lot of type during the week.



Below left reveals that the sun did come out following an extremely rainy Conference weekend. This is a building specially built by Sky and Johanna to house the Skyline Type Foundry; the pressroom adjacent to the foundry features all the comforts of home—well, almost.

Typographical Union Contract Gives Glimpse Into Lino, Mono Operator Duties, Wages in 1962

This tiny glimpse back into the highly regimented days of union printers was written by Pat Leary of Brookings, S. D., especially for our Newsletter. *Thanks, Pat, for your assistance in getting this edition into print. It's hard to realize that none of the jobs mentioned herein still exist, and that virtually everything discussed is now handled routinely by all those who work with personal computers.*

A recently surfaced contract between Chicago commercial printers and Typographical Union Local 16 offers some insights into wages and conditions nearly half a century ago. The 20-page document covered two years beginning June 7, 1962.

The day shift and night shift were each 7¼ hours each, and the third shift (described as any shift which began after 8 p.m.) was only 6¼ hours, both exclusive of lunch time.

Negotiated wage rates for the first year of the contract were $3.8828 per hour for compositors (or $140.75 for a five-shift workweek) on the day shift. Night workers received 7% above the day shift, or $4.1545 per hour or $150.60 per week. Because of their shorter work day, third shift workers received 7% above the day scale or $4.6338 per hour or $150.60 per week.

Machine (both linecaster and Monotype) operators received a $.04/hour premium: $3.9214 per hour on the day shift, $4.1931 per hour nights and $4.6769 for the third shift.

For the second year of the contract (June 7, 1963-June 6, 1964) compositors enjoyed an increase to $4.00 per hour, $29.00 per day and $145.00 per week on the day shift. Night compositors jumped to $4.28 an hour, and "comps" on the third shift were raised to $4.7738 per hour. Machine operators were increased to $4.0386/hour days, $4.3186/hour nights, and $4.8169/hour for the third shift. The contract also called for employers to "secure . . . a group policy of insurance which shall provide Health and Welfare Benefits for all employees . . . and their eligible dependents. . . ."

The contract called for "two-thirds of the basic day weekly wage [to be paid] for loss of time due to sickness or non-occupational injury for a period of 13 weeks." It mandated a payment of $19.00 per day for hospital board and room up to a maximum of 70 days or $1,300, and a $100.00 maximum for emergency accident treatments. Awards of $2,000 each were stipulated for life insurance, accidental death and for dismemberment.

"Competent operators" were described as those who averaged not less than 3,500 ems solid an hour on type larger than 7-pt., or 4,000 ems solid an hour on 7-pt. and smaller. The contract agreed that "Linotype operators shall be supplied with a complement of 21 matrices (presumably per magazine channel) and 30 spacebands.

The contract stipulated that one caster machinist may be required to run two casters, provided he had an assistant who was enrolled in the apprentice program. It called for an hourly wage of 75% of scale for learners on Linotypes and Monotypes for a period of three months. If they were capable of setting the averages referred to in the previous paragraph, they'd be paid full scale; if they couldn't set the 3,500/4,000 ems minimum, they'd have another three months to achieve the competency level.

The contract was quite specific in outlining the duties of Monotype apprentices: "*First year:* Clean machine, put on and take off galleys, oil machines, put metal in pot, put pistons in pumps, drill nozzle and pump bodies, put on and take off spool(s). *Second year:* Put in normal wedge, put in mat case, quad case, line up type, set measure, change molds, learn California job case. *Third year:* Bench work: cleaning molds, composition and display, giant and material maker. Learn matrix marking, style type and set size. Changing mat case layout, special characters, clean type carrier. *Fourth year:* Remove bridge, mold, type carrier, pin jaws, mat jaws, type pusher, stop rack, jaw tongs, spring box, locking bars, type and space transfer wedges and rods, mold blade operating rod. Remove air pins and clean air passages in blocks A, B and C. Reassemble. *Fifth year:* Minor adjustments, type pusher, mold blade, operating rod, line hooks, pump adjustments, squaring and centering nozzle, bridge adjustments, paper tower. Take apart jaw tongs, spring box and make adjustments. Adjust draw rods. *Sixth year:* Keyboard adjustments, general work, servicing all machines."

A Linotype machinist had to be employed on each shift when a minimum of five operators were working, with no machinist required to service more than eight linecasters in operation, "with a leeway of servicing 12 machines in operation. When 13 machines up to 21 machines are in operation a second machinist shall be employed. An additional machinist shall be employed for each eight machines or major fraction thereof in operation." Ludlows, Elrods and power proof presses maintained by machinists counted the same as typesetting devices. The document further stipulated that "in no case shall a machinist be permitted to operate more than one standard Linotype for the purpose of casting rules, making metal furniture, slugs, borders or dashes."

The contract conceded that Teletypesetter (TTS) operations in the commercial printing industry in Chicago were "still experimental" and that work would "vary from shop to shop." It was agreed employers contemplating TTS installations would make individual arrangements with the ITU following a 90-day notice.

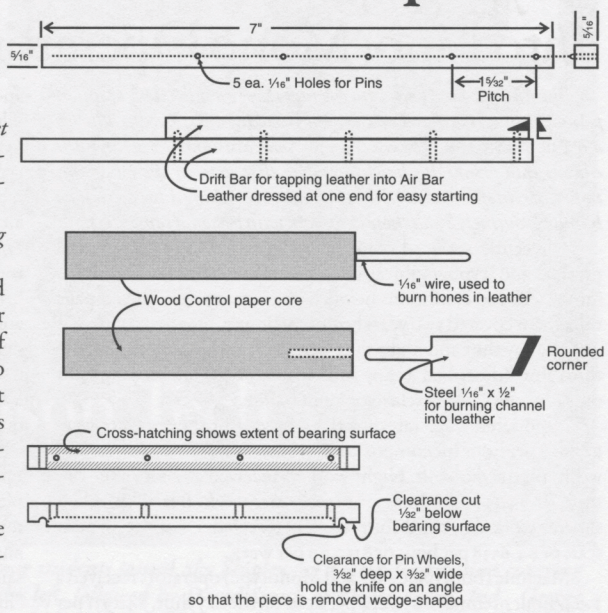
An early paragraph outlines jurisdiction by the ITU over "all composing room work performed . . . such as hand compositors (including distribution and break-up); line-up and lock-up men; typesetting machine operators; makeup men; markup men; bank men; proofreaders; machinists for typesetting machines; operators and machinists on all mechanical devices which cast or compose type or slugs or film; operators of Justowriters, operators of tape perforating machines and recutter units for use in composing or producing type; operators of all phototypesetting machines (such as Fotosetter, Photon, Linofilm, Monophoto, Coxhead Liner, Filmotype, Typro, photo lettering machines, and Hadego); employees performing any work on the Brightype process prior to the making of the plate, and employees engaged in proofing, waxing and paste-makeup with reproduction proofs, processing the product of phototypesetting machines, including development and waxing; paste-makeup of all type, hand-lettered, illustrative, border and decorative material constituting a part of the copy; ruling; photo-proofing; correction, alteration and imposition of the paste-makeup serving as the completed copy for the camera used in the plate making process. . . . All copyfitting, selection of typefaces and marking of type measures, typefaces and type sizes on copy and layouts is defined and recognized as markup. . . ." No reference to a reproduction clause (often called "bogus") could be found in the document.

The contract was signed by eight members of the Franklin Association of Chicago for the employers and six members of Chicago Typographical Union No. 16. Long-time ITU president Elmer Brown was a signatory, attesting to the document's compliance with International and Taft-Hartley laws.

Replacing Paper Tower Leathers on Comp Caster

Some of the most critical technical information relevant to the continued successful operation of a Monotype Comp Caster never was formally published. The Leather "Gasket" in the Paper Tower is essential to form an air-tight fit necessary for reading the Paper Ribbon which drives the Caster. Yet until a soiled Hektrograph technical print was discovered, details of replacement were unknown. The original document apparently was released by Lanston Monotype, Philadelphia.

The drawing has been re-created and details for making and installing are herewith reprinted:



The Leather Packing-2G2 cannot be pre-manufactured completely for use as an insert in the Air Bar a2G of the Paper Tower. The Leather strip is furnished for the convenience of customers and must be applied to the Air Bar and *tooled* to assure an air-tight seal against the Cross Girt 1G5 and permit free passage of air to each of the 31 holes of the Cross Girt as determined by the signal perforations in the Controller Paper. The fitting of these Leathers involves the following procedure as practiced in the field:

(1) The sketch shows details of three simple tools for use in inserting Leather and dressing it to insure against air leakage. We will refer to this sketch as instructions follow.

(2) Remove the complete Controller Paper clamping assembly and the Pin Wheel assembly from the Tower. Separate the Air Bar a2G from the assembly to allow fitting of Leather.

(3) Dress one end of Leather as shown in the sketch to guide the Leather into the Air Bar Channel. The Leather is then mounted in position on the Drift Bar and squeezed in a vise with approximately one inch of the dressed end of Leather extending beyond the vise jaws. Apply Vaseline to the Leather and Air Bar Channel to minimize friction when tapping the Leather in place.

(4) Holding the Air Bar by hand, start the Leather into the valve end of the Air Bar and tap the opposite end lightly until the Leather advances into the channel about one inch. Remove from the vise and resume tapping by clamping the Bar, Leather and Drift Bar together in the vise.

Caution—Apply only sufficient pressure to keep the Leather in the bottom of the channel, yet permit the Leather to slide along in the channel until both ends of Leather project evenly from the Air Bar. At this stage apply sufficient vise pressure to assure proper seating of the Leather. Remove excess Leather from ends of Air Bar with a razor blade or sharp knife.

(5) Replace the Cross Girt Cap 1G6 without the Pin Wheel and place the Air Bar in position using the Air Bar shaft 5G as a fulcrum pin. No other parts are in position during the ensuing dressing of the Leather.

(6) Procure a sheet of emery cloth #0 grade and tear a strip about 4½" wide. Place the emery cloth over the Cross Girt so that the abrasive side will contact the Leather when the Air Bar is moved to position against the emery cloth. Insert a medium-sized screwdriver between the bottom of the shaft and the Air Bar to apply sufficient pressure to hold the Air Bar in place as the emery cloth is passed back and forth between the surface of the Cross Girt and the Leather packing. This abrasive action is accomplished by holding ends of the cloth in each hand so that the cloth will hug the contour of the Cross Girt and the end parts of the cloth will move up and down in a vertical position. Continue this operation until the complete surface of the Leather that contacts the Cross Girt forms a bearing surface with the Cross Girt.

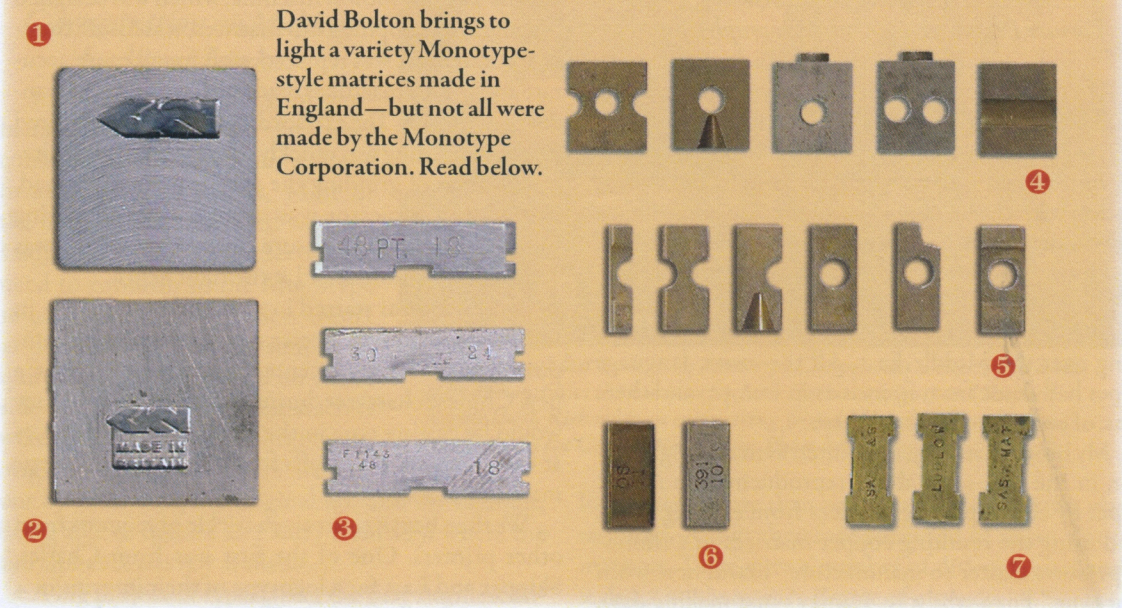
(7) To test the extent of bearing surface on the Leather, smear a very light coating of Prussian Blue or blue ink on the Cross Girt in the area of Leather contact and swing the Air Bar up and down several times against the Cross Girt. The Prussian Blue will transfer visibly to the Leather. Do not proceed beyond this point until a full bearing is established.

(8) Remove the Air Bar from the tower, grasp it lightly in a vise with the Leather side up to proceed with dressing, Locate the position of the two end 1/16" holes with a center punch or other pointed tool as a guide for drilling—the inside two holes can be drilled later. Be careful that these holes are drilled in the exact position outlined in the Leather. The clearance cuts shown in the sketch may be cut away with a sharp knife.

(9) To cut out the channel as shown in dotted lines on the sketch, hold the knife on a 45° angle and cut along both dotted lines. Work from the holes toward the center and the strip of Leather can be lifted out in the shape of a wedge. Drill the two inside holes in the Leather. The tools marked A and B in the sketch are used to shape the channel and holes by charring—this also eliminates all frayed edges. The tools are heated over a flame until they show signs of glowing lightly red and then applied rapidly over the surfaces cut by the knife and the drilled holes. Some operators forego this burning procedure because of the chances of damaging the bearing surface of the Leather.

(10) Assemble the tower and recheck the Leather as covered in paragraph 5. If additional dressing is necessary, the emery cloth must be slightly less than 4" wide to clear the Pin Wheels.

Showing of Monotype Matrices Expanded; Proprietary English Mats Revealed



David Bolton brings to light a variety Monotype-style matrices made in England—but not all were made by the Monotype Corporation. Read below.

By David Bolton
The Alembic Press
Oxfordshire, England

Non-Monotype Display Mats. Several mats shown were produced by Stephen Austin & Sons (i.e. SAS). This firm had in-house engraving facilities for mat production, and did undertake such work for outside customers. Of course, the mats are engraved, not punched. Also the metal is not the same bronze as used by Monotype. ❶ The first mat looks like a standard English Monotype display mat; but ❷ is an unknown (but probably SAS) mat. It is very light, and aluminium, I think. Perhaps you can make out that it is much squarer than Monotype's own, i.e. does not have the rounded corners. Both mats were made for GKN (Guest, Keen & Nettlefold) and their Nettlefold division in particular, which made screws, bolts, etc., and were still using Monotype into the 1980s, when they finally closed their in-house printworks. They even bought brand new casters, as replacements, in 1972, as their old ones had worn out. Duncan Avery says that occasionally Monotype did produce aluminium mats, as one-offs for customers. ❸ The top is standard Monotype stamping on the edge of the matrix. The bottom two are from SAS manufacture.

Composition Mats. ❹ These are English Monotype large type comp blanks, .4x.2, and two low space ones in steel, one being for normal comp, I think. I also have .4x.4 and .4x.1, etc. ❺ This is an assortment of Monotype 0.2 square blank mats, mostly for large type comp but one standard one for normal comp, and for fitting in various awkward places in the diecase!

❻ These are two Monotype mats with *unmilled sides* so for use without bars. One is steel, the other bronze. Duncan Avery said several firms wanted unmilled mats, as this allowed quick changes of mats in the diecase. He also warned to *avoid steel mats* at all costs, for they wear out the mould. I think there were periods when bronze was in short supply, and Monotype had to use other metals. Incidentally, my one diecase of New Hellenic Greek is all unmilled mats. ❼ Source of manufacture—mats all have different attributions, SA &S, SASMAT, LUDLOW but they all were produced by Stephen Austin. It may seem strange to have a *Monotype matrix* labeled "Ludlow." For an explanation of how that came about, read the following article, content of which was provided to me by John Harrison through email messages and direct contact when he visited the Alembic Press with his friend, Richard Neville.

Matrix Making at Stephen Austin and Sons; Work Leads to Merger with Ludlow, U. S. Closure

BY JOHN HARRISON
Former President, Ludlow Typograph Company
Rural Essex, England

The Stephen Austin printing firm of Hertford, England (founded in 1768), had built a fine reputation for quality letterpress printing, with a speciality for non-roman scripts, which resulted from its association with the headquarters of the East India Company at neighbouring Haileybury, near Hertford.

During World War II, this facility was taxed to the limit when the Ministry of Information required huge quantities of leaflets printed in Arabic for dropping over the Middle East. All the exotic language types had come from foundries in Europe, and there was, of course, no access to these.

My brother Stanley, appointed as managing director, in the 1940s, set about reproducing the Arabic types by electroplating matrices from existing types, and using the resulting copper matrices in a Monotype Sorts Caster to manufacture "brand new worn out type." For a while, in Stanley's mat making days, a line was stretched between his third-floor office to the third floor of the building opposite, where the sorts casting equipment was located. Mats and resulting comments were transferred to and fro along this line, with the caster op reporting that another few thou were needed to bring the type to correct height, etc., until the result was right. The height was altered by rubbing down the mat. Thus, four strokes in one direction and four in the other would reduce the height by a thousandth.

He also installed a Taylor Hobson engraving machine to engrave mats directly, using patterns cut by hand from cellulose acetate sheet. It became obvious this set up was insufficient and not accurate enough to serve the needs of the composing room (the "Oriental Ship," as the unit was called). There was also a "Jobbing Ship" and a "Magazine Ship."

I had recently (1948) obtained my mechanical sciences degree at Cambridge, and when Stanley, in 1950, offered me a job at £1,000 a year to take charge of the mat making operation, I jumped at the chance.

It was obvious from the start that electroplating was not the answer. The matrix took three weeks to grow and then it was a tricky job to machine it to fit the Monotype machine and "justify" it for alignment and depth. I decided to dispense with electroplating and concentrate on engraving. Some of the first mats I cut were for Tibetan and Georgian.

The Taylor Hobson machine, which was designed for engraving trophies, not matrices, was insufficiently accurate, and was replaced with much more accurate and robust machines made by George H. Alexander of Mitcham. The extraordinary accuracy required for typefounding was quickly recognized, and entirely new ways of grinding the cutters were developed. An accurate projector was installed and measuring systems developed to ensure that the engraving was accurately positioned and at the right depth.

This work was started in 1952 and by 1954 was in full swing. We could receive a request from the composing room for an accented character or maybe a new Chinese character during the morning, and they would be casting type in the afternoon. All matrices at this point were one-offs for casting on Monotype machines as sorts.

We then began to receive a trickle of requests from other printers. One of the first was from Charles, Skipper and East for a logotype of their imprint in 4 point on a Ludlow matrix. This was no problem, and other requests followed.

Stephen Austin moved to a new factory in the autumn of 1954, and the matrix department had a small workshop next to the Monotype Casting department. It had a staff of three or four persons by then.

Only Engraved Matrices Then Being Made

The company produced only engraved matrices—making punches and punching matrices was far more difficult. Only limited quantities of composition-style Monotype matrices were made. Monotype composition mats were difficult to do, because of the small size of the matrix. The cutting tool was 2 thou diameter, and had to be 50 thou long, because of the depth of drive. It was difficult to ensure the sides of the engraving remained near vertical, and the tip did have a tendency to bend or wander, even though it was made wider diameter (and cone shaped) above the 50 thou.

Display mats were much easier to make. Occasionally the company even produced mats for Monotype Corporation (in aluminium), where the job was going to entail too much work for too little return as far as the Corporation was concerned. As far as relationships between Stephen Austin and Monotype, there was no real problem, though one salesman objected to supplying Austin with too many display and comp

mat blanks. As long as we avoided him, things were OK.

For a brief time, we also produced Monophoto mats, which involved .2"x.2" squares of film.

Concentration on Making Ludlow Matrices

In our manufacturing of hot-metal matrices, a new character could be produced within a day—from artwork to matrix. Most of the mats we manufactured were for Ludlow. A Ludlow character did not need to conform to the Monotype 18-unit system so precision wasn't as demanding. The mat simply required a small extra space on either side of the character. Characters were traced on cellulose sheets from original art. Widths were worked out by measuring the original art, and for example, being able to deduce an *f* and *i* from an *fi* where the full alphabet was not available.

David Bolton's fast work at his Monotype Composition Caster is just a blur as he demonstrates the machine for John Harrison (right) and Richard Neville (left). Richard is an engineering friend of John's, who came to be fascinated by the Composition Caster. Photo by Claire Bolton.

A big project of typesetting the first Burmese encyclopaedia was undertaken by Austins, the text type being set on Monotypes—a complicated process. The actual books were to be printed by Hazell Watson and Viney.

Our job in the Matrix Department was to make display matrices from 18 point and upwards. These were made in the form of standard English Monotype 1" x 1" display matrices.

Speaking of difficult languages, traditional Chinese ran to some 45,000 different characters, with new ones being invented all the time.

Huge Order for Sinhalese Ludlow Mats

Then an event occurred which transformed the situation further. We had a visit from the newly appointed Government Printer of Ceylon, which had just become independent. He was charged with the responsibility of printing all government leaflets, posters, etc., using Sinhalese script.

Monotype Corporation had undertaken to mechanize the text setting, up to 14 point size. The government printer, Bernard de Silva, was desperate to find display types, for his Ludlow casters, but the Ludlow company was not interested and/or incapable of undertaking this. The upshot was an enormous order for Sinhalese Ludlow matrices.

Mats for the Sinhalese alphabet, with combination characters, ran to about 225 letters and using the Ludlow system, more than one matrix of each letter was required. A font therefore consisted of about 1,000 matrices. There were a number of different sizes and styles. And there was a degree of urgency.

This order was followed by similar orders from the newspapers in Colombo. An equally large order for Tamil mats soon followed. The department grew rapidly. Orders began to come from India and the Middle East. The department soon had a workforce of 20 persons or more, and moved into a small factory on a trading estate in Hertford, and operated under the name "Sasmats."

To cope with the need for more than one identical matrix a multi-spindle engraving machine was developed by George H. Alexander, eventually with six engraving spindles—a very successful tool.

By the early 1960's, work was coming from Fleet Street for matrices that were not available from Ludlow. Things began to slow down in the late 1960's, however, culminating in Rupert Murdoch's move to Wapping, and it was decided to approach the Ludlow Typograph Company of Chicago to see if some sort of merger might be worth considering to make the best of the remaining hot metal market.

Ludlow Company Merged In

The Ludlow company was in very difficult financial straights at that time, and had just received an enormous order from Poland, requiring many accented letters which they were no longer capable of producing. To cut a long and interesting story short,

Ludlow (now owned by a consortium) bought Sasmats from Stehen Austin, which became Ludlow Industries (UK). The existing Ludlow setup in the UK was transferred from Raynes Park to Hertford. The Polish order was completed by direct engraving accents on regular Ludlow mats . Thus the progression in marking matrices manufactured at the facility: first "SA & S," then "SASMAT" then "LUDLOW."

The decline in hot metal continued, however, and in the mid 1970's I was appointed president of Ludlow Typograph. The decision was made to close the Clybourn Avenue factory in Chicago, and to retain a small sales office on the outskirts of Chicago. Production was transferred to Ludlow (UK).

Ludlow actually became profitable again, albeit with a much lower turnover. In 1981, I decided to leave Ludlow.

After a few years under new management, and an attempt to convert to computer typesetting, Ludlow went into liquidation. All the machinery was bought by Linotype, but it never again was put to use in making mats, so I am told.

Electrodeposited Matrices for the Ludlow Machine

In the previous article John Harrison notes that it took three weeks to grow a simple Monotype matrix. Can you imagine how long it took to grow matrices for a Ludlow machine? Such an unheard-of product was claimed by Pat Molitor to be part of a matrix collection he received with his machine. I was so convinced he was wrong in identifying them as deposited mats, I had to see for myself. He was right! (He has no info as to when and how they were prepared.)

Shown above is the largest of the electrodeposited matrices. The backside reveals the deposit wasn't complete—it's filled in with type metal.

Below you see the two Ludlow mats and casts from them, along with "original" ornaments. The butterfly is cast on the Supercaster from a matrix made for the Universal Type Caster owned by David Churchman (Sterling Type Foundry). The second is ATF's original casting of the cameo in 48 point.

Above is shown a matrix which self-destructed when an attempt was made to cast it on the Ludlow. You see portions of the matrix stuck to the casting, along with a bit of a squirt.

Simple High-Tech Attachment Aids the Keyboard Operator

Michael Langford of Washington, Iowa, has developed a simple, inexpensive attachment for his Linotype Model 5 which attaches to the Assembly Elevator and sounds an audible alarm when matrices in a line get within 2- to 3-picas of the end of the line. It has no moving parts, only three components, runs for months on a single AA battery, and requires no permanent installation.

"For me," he says, "the constant shift of focus from the keyboard to the copy board to the line gauge causes problems basically because of short attention span and trifocal glasses." With the attachment he does not need to constantly look toward the assembled matrices for fear of oversetting a line—the sensor lets him know when he's close to finishing a line.

It can be mounted with tape, a twist-tie, cable-tie, rubber cement or any other way you choose, with the battery holder being mounted behind the copy holder or copy tray, out of sight and mind. For additional information, contact Michael Langford, 706 South Ninth Avenue, Washington, Iowa 52353, or email him at washingtondude@iowatelecom.net.

Very Extensive Article Published on the Küco Caster

Dan Carr of Ashuelot, N. H., has published a very extensive article explaining the Küco casting machine, its history and its operation. The article appears in *Matrix 27*, pages 144-150.

The names Kustermann and Foucher also are associated with the machine. Dan reports the machines were found in the most important foundries in Holland, Sweden, Germany and France during the height of typefounding in the 20th century. Some also were imported into the United States.

Dan, who has ATF matrices and also has created his own designs, all of which must be dressed because of the inherent overhang of the engraved character, sought out and purchased a Küco caster for his own use because the machine did have a full trimming capability "In practice," he says, "there is very little difference between the three foundry casters (Foucher, Küco and Barth) in the quality of the types cast or the problems in casting good type.I have also seen sharp, solid casts of type come from each of the three main Monotype machines."

"Kücos are ticklish to set up right, and very dangerous if you do not manually lock the pump when making any adjustments, and whenever not actually casting. Once set up, the Rapid Caster KVSk, put out finished type almost faster than I can stack it. I found that making repairs to the Küco was easier than the Monotype. While the wearing parts are often precision made, they are simple in design and straightforward to manufacture," Dan explains.

He seeks others who might have the machines, or manuals relating to the caster.

Smith Takes on Thompson; Casting Done at Skyline

"I've been driving the six hours out to Skyline Type Foundry once a month ever since the ATF Conference in September, 2008, for mostly long weekends of casting at his shop. I've cast many characters of various fonts and lots of borders and ornaments. The Andy Dunker mats are out of this world with regard to their precision in manufacture and alignment. I've been having a terrific time and know that I will end up with a Thompson in my garage one of these days." This quotation is from David Smith, who lives at Bloomington, Indiana.

John Easson Takes On Monotype Casting Machine

"I retired six years ago and moved here (Blairgowrie, Scotland) setting up my press in an old building I had specially renovated. I acquired my Mono from John Eickhoff when he closed down most of his operation, originally planning on casting border units and demonstrating the principle of operation to visitors. By luck I already had several molds and matrix sets rescued by friends from refuse skips at my old college (which used to have a print department). What held me up was the lack of a compressor and the parts John had forgotten to give to me, and the fact that the motor was three-phase. All these are now sorted out so I am starting to work with the machine.

"So, with any luck, I should be joining the rather select band of Monotype operators soon. On the other hand, my real interest is actually using the type, rather than making it. I try to resist the temptation to get distracted by all those other fascinating sides of letterpress printing—papermaking, bookbinding, machine restoration, linocuts, etc. Life is too short."

This information is in a letter from John Easson at Blairgowrie, Scotland.

Expanding the Storage Applications of 9"x 13" Galleys

BY STAN NELSON
Ellicott City, Md.

(Editor's note: Stan assumes you have a Hammond Glider Saw. Without it, making the various dividers mentioned herein will be much more difficult.)

Years ago I began to organize my collection of type cuts, dingbats, and ornaments in 9" x 13" galleys, using assorted wood and metal furniture to separate the various types into subject categories. It worked well enough until my collection had grown and become disordered. Then I worked out a solution using scrap wood and a system of modular elements which I will describe here.

I suspect some of you will immediately say "Hey, I've been doing that for years." This probably is a case of 'reinventing the wheel.' But it's working so well for me that I feel a need to share.

The Problem

Clearly, in order to sort thousands of type cuts and ornaments into categories one needs many individual compartments of appropriate varied sizes. These will depend upon the dimensions of the types and the number of any given design. You can use type cases for storing such elements, especially quadruple and quintuple cap cases. But the individual compartments of such cases are of fixed sizes, and the overall dimensions of type cases are quite large, compared to the 9 x 13 galleys, which are a very convenient size. To create systematic yet variable compartments within the galley one must build a grid structure, based upon a common set of dimensions.

By all means make a prototype or sample before committing to the manufacture of many parts; but once you have a satisfactory example, mass produce the elements you need—all at one time. If you think you need 20 galleys for storing your sorts, make enough pieces at one time to complete the job. You will save a lot of time using this approach and gain consistency as well.

All of the wooden parts are cut from ¾" thick stock. Pine is OK, but I prefer poplar wood. Here are the pieces you will need.

(1) Side Sticks: ½" wide x 12" long, leaving about an inch at the end of the galley for a 'galley lock.' These side sticks protect your types from accidentally coming into contact with the rails of the galley cabinet. (Two per galley.)

(2) Head Stick: ⅜" thick and cut to just fit in the galley, between the side sticks. It should be a comfortable but snug fit. If made 2 points short, it's OK.

(One per galley.)

(3) Divider Sticks: 3 to 4 in a galley on average and cut to the exact same length as the Head Sticks. (Three to four per galley.)

(4) Galley Lock: ¾" square x ⅜" short of the width of the galley. It has a 3/16" hole drilled in the center of the end, and a ¼ x 20 hex head bolt threaded into the hole. When placed in the galley, against the side sticks, it is held in place by turning the hex head bolt with a small wrench until it is pinched firmly against the side of the galley. Of course, don't over-tighten as this will bend the side of the galley. (One per galley.)

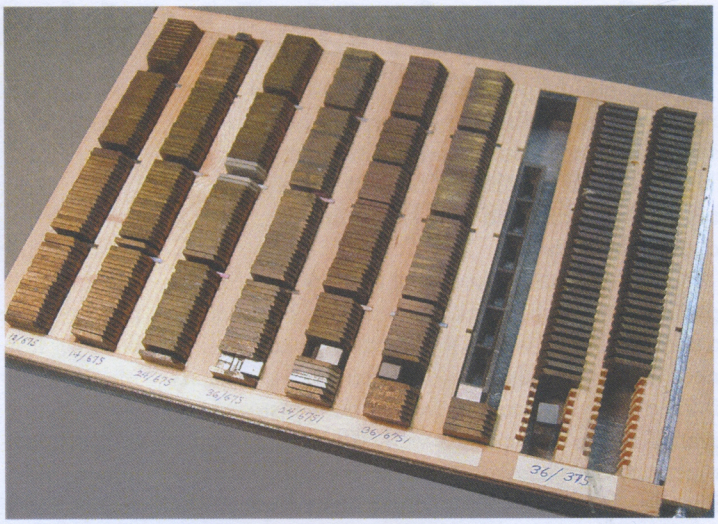
You could close the end of the galley in other ways. For example a strip of wood could be held in place with hot glue, or a standard spring galley lock could be used. With my system, I can fasten a label to the surface of the lock. The Head Sticks have a series of shallow notches cut into them on one side using the printer's saw, whose blade is 6 points thick. Set the saw blade 8 points above the table, and cut the notches upon a regular set of widths. I have been us-

This is a galley Stan has subdivided for storing small cuts. He says if he were to make his dividers narrower, he could preserve more space for the cuts. He has also used this process for storing Monotype matrices in a galley. *See next page.*

ing 5 pica intervals, but 6 or 8 would be good too. Having the notches closer together would allow greater flexibility but requires more sawing. I do believe that making all of the material to the same standard is a worthwhile choice. This means that all sticks will be interchangeable and there won't be problems later mixing material.

The Divider Sticks are just like the Head Sticks except that they are notched on both sides.

The Galley Locks have the same kind of notches on just one side, but since they are the full width of the galley, make sure the ½" Side Sticks are taken into account. If 5 pica intervals are used and the Side Stick is 3 picas wide, saw the first notch at 8 picas and the next at 13, etc. This will make the notches line up with the Dividers.



Here's an example of a Stan Nelson divided galley for holding Monotype matrices. He says the individual slots at right probably aren't worth the time necessary to cut them.

Lay out the vertical locations of the Divider Sticks. I placed them 17 picas apart, but it could easily vary. Cut a few slugs to this length and test fit them in the galley. Because the Side Sticks are 12 inches long, the top row will be a bit different from the others. Cut the slugs to fit. Once everything seems in order, cut as many slugs as you need to create compartments for the material you are storing. They'll just drop into place. It's very convenient.

You may vary the intervals between rows as you wish, making the compartments short and narrow, or tall and wide. This system is very flexible.

Galleys vary a little in width. Check your galleys and use a smaller one when testing your material. If you find the galley a few points too wide, two point leads can be used to shim everything up tightly.

Variations On A Theme

Flat Matrices: A variation of this same system can be used to create storage for flat Monotype display matrices. In this case cut dados (notches) in the side sticks so a pair of Divider Sticks are spaced exactly ½" apart and cannot move. (See photo) These Divider Sticks are notched in pairs ⅛" deep on just one face, with about 3/32" between the actual notches. The resulting 'comb' of notches will accommodate the ¾" x 1⅛" flat mats very nicely, with each matrix sliding into a matching pair of grooves. Two pair of Divider Sticks will hold an average font of matrices. Just be sure to label the slots, using your computer to produce strips showing the location of each character, and paste these strips alongside the notches. This will indicate which matrix is housed in each slot. One galley should hold four sets of matrices.

Printing Blocks: Such always present challenges for storage. In this case use the side and head sticks, as well as the lock. The resulting frame will help protect the cuts, and keep them securely in the galley. Divider sticks and slugs can be added if needed to keep the cuts from drifting about.

If you have a proof press that accommodates the thickness of a galley go ahead and proof each galley, noting its number and storage location and put the proofs into a loose-leaf binder. Later it will be easy to locate a cut by referring to the proofs.

You might try the same trick with the galleys of type cuts and ornaments, but they would have to be on their feet and perhaps secured in their compartments in some fashion, such as by stuffing tissue paper in the open areas. Proofing type that is off its feet is likely to cause damage to the characters.

Storing Sorts: It isn't unusual to acquire special sorts or additional characters for your fonts. In such cases it makes no sense to partially fill type cases, and such may not be adequate regardless. It makes good sense to keep extra sorts in your 9 x 13 galleys. Use the Side Sticks and Galley Lock to keep the types secure in the galley. Head Sticks, Divider Sticks and Slugs can be used to keep different sorts apart by creating individual compartments. There is room on the surface of the Divider Sticks to apply labels in order to identify the odd sorts.

Who Said Hand Molds Were Extinct?

Forty molds! The lifetime total of type molds made by Stan Nelson in his typefoundry's workshop has now reached the amazing number of 40. This is probably the largest number of hand caster's type molds produced by a single maker since the early 20th century.

Of course this is like saying that Stan's the most prolific buggy whip maker alive today. But there is a need for buggy whips, and certainly a continuing need for type molds. These are often used as a teaching tool in colleges and university book history programs, and in museums as well. While all of Stan's molds are complete tools, perfectly capable of casting printable types, they are most often displayed in exhibits, or handed about from student to student, generating those 'aha!' moments that come when abstract illustrations and descriptions are replaced by an opportunity to examine the three dimensional 'real thing.' The enthusiasm is often palpable. A frequent comment—"I never could figure out those pictures. Now I understand."

When the molds are used in casting demonstrations, students and museum visitors are surprised at how incredibly fast the metal solidifies and at how fast type can be cast by hand. They are amazed that the small ladle of metal completely fills the mold. And often they are a bit bewildered at the product of the mold, for most have never seen a printing type. They ask whether the letter is part of a typewriter. That is—assuming they know what a typewriter is! It is remarkable how quickly the entire technology of printing has become a dim memory, or even completely lost to the present generation, which is so absorbed by the computer.

Education is Stan's primary motivation for producing these molds. There is a palpable need for authentic and accurate tools with which to teach and to demonstrate type casting, as a part of programs that focus upon the 550-year story of printing. From 1450 to 1850 hand casting was a vital part of that story, and Stan has been making type molds that represent most of those 400+ years of type manufacture.

For example, his early 16th century, brass molds are based upon an early survivor at the Plantin-Moretus Museum in Antwerp. Its funnel shaped mouthpiece (one of two known among early molds) identifies it as a precursor to the more sophisticated German designs that followed. This primitive structure may well be the kind of mold used from the beginning of typecasting.

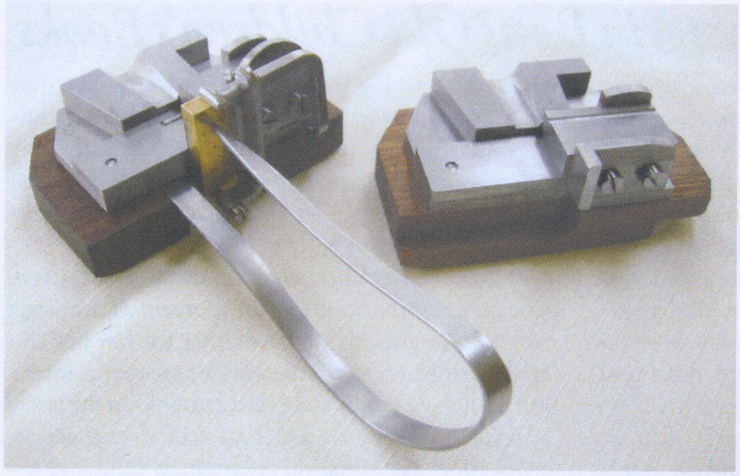
A French style mold is illustrated in *Diderot's Encyclopedia* and Fournier's *Typographique*. And this form of mold, with any number of small variations, became the common form of mold used in France and England, and elsewhere. Despite its somewhat more complex structure, Stan has made many replicas, for it is attractive, and easy to use. During the 19th century, French molds were modified in several ways, the most notable being the adoption of levers to accelerate casting speed. and the adoption of an upper guide to simplify its structure. Stan has made versions of all of these variations over the years.

The most complex molds to date were made for display in an exhibit in Japan. These were accurate facsimiles of the earliest typecasting materials used back in the 1870s, under the guidance of the American missionary William Gamble, who introduced his innovative type making techniques to Japan. Four of these challenging molds were made for the Morisawa Corporation.

On another occasion, an entire foundry, including punchcutting tools, three type molds, sample punches and matrices, as well as type finishing equipment, was delivered in February of 2007 to the Greek Font Society, for exhibit in Athens, Greece. This was a great challenge, for many of the tools had to be specially made. It was a unique opportunity to provide a complete type making 'kit'. The project occupied over seven months of effort.

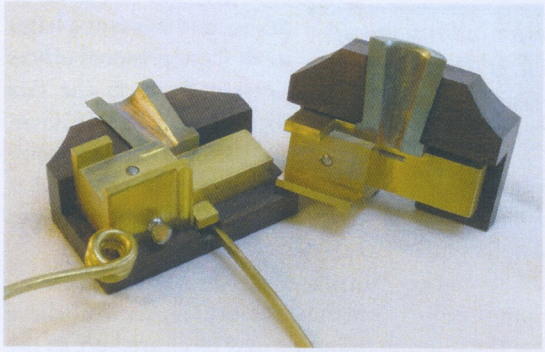
Stan's first mold, with a 36 point body, was made in late summer of 1971, and was functional, even if not elegant. His latest batch includes a 48 point mold which will be used for casting demonstrations at the International Museum of Printing, in Carson, California; and a 72 point mold that will support a series of experiments in the production and casting of large matrices. Such experiments are another valuable use of hand molds, for they allow us to better understand the methods employed in the past.

So, these forty molds—spanning a period of 39 years, and ranging in body from 6 to 72 points , represent the maturation of an urge to explore and master of the hand processes of typefounding. Each new effort helps to open up a better understanding of the past. The work continues. Stan says, "Another ten molds and it will be time to celebrate again!"

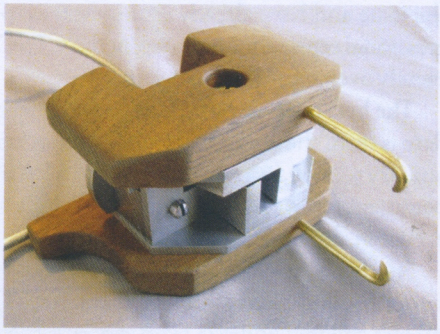


Two views of a 24-point lever mold, made by Stan for the Morisawa Corporation, Tokyo, Japan. It is an exact copy of a mold used in the 1870s to cast Japanese printing type. The lever arrangement allows each cast type to be ejected from the mold by merely squeezing a trigger.

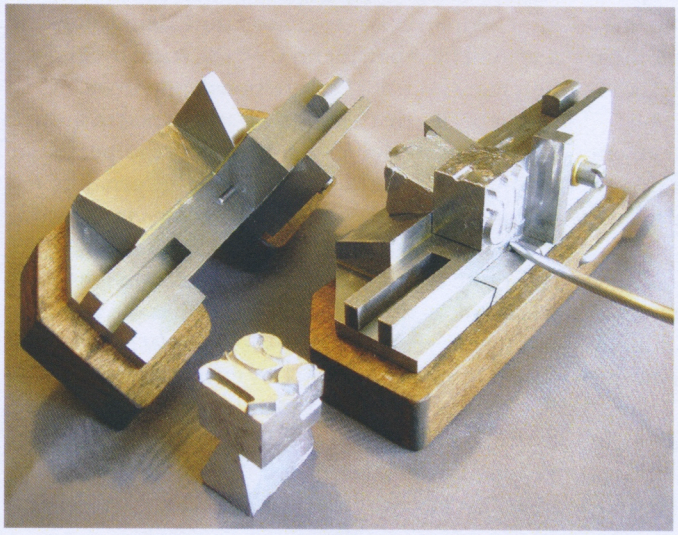
A Sampling of Stan's Molds



A precise replica of an early 16th century form of brass mold, based upon mold GI#48 in the Plantin-Moretus Museum, Antwerp. Stan made this particular mold for Wells College.



Showing excellent attention to detail and excellent finishing, this 36 point, French-style mold was made for the Greek Font Society.



Stan's rendering of a 72-point French style mold, opened up, including examples of cast sorts and a matrix made to accompany the mold.

Lead Poisoning Hysteria Bans Old Children's Books

The very unfortunate "news" article in *The Printer* several months ago containing a *bogus* report that the Environmental Protection Agency had issued regulations specifically banning the use of "lead type" of any description has blunted our attention to the ongoing regulatory hysteria over lead. Apparently the issue is far from dead in the regulatory world. We need to increase our vigilance on these matters and let our Congressional representatives know of our profound displeasure with this unfounded continuing regulatory attack on lead in virtually any form.

Responding to the Consumer Product Safety Improvement Act passed by the 110th Congress, regulations have been issued which, in effect, ban from sale and ban from library shelves all children's books published before 1985 on the basis that inks used in printing them may have trace amounts of lead in them and thus, children handling the books *might* be contaminated.

> ***. . . it seems it's much easier to implement a regulation than to first determine whether it has merit or is needed.***

Fred Woodworth of Tucson, Ariz., a guy who is as nuts about strike-on typesetting paraphernalia as we are with typecasting equipment, brought the issue to light in his most recent issue of *Mystery & Adventure Series Review*, which, by the way, he produced using only Varityper strike-on equipment. I accused him of unwarranted hysteria, but now stand corrected on the issue and have already sent messages to my Congressional representatives stating the CPSC has completely overstepped its authority.

The best overview of the situation I have found to date is from the American Library Association. In its January 9, 2009, website posting, the ALA made these comments in a message signed by Emily Sheketoff, executive director:

"In August 2008, the 110th Congress passed the Consumer Product Safety Improvement Act (CPSIA) to protect children under 12 from exposure to lead following widespread reports about the dangers of children's toys coming in the United States from China and other places. This new law is administered by the Consumer Product Safety Commission (CPSC) and will likely start to take effect in February 2009 (although even this latter date appears to be changing.)

"Within the last few days, ALA and others in the 'book' community (other librarians, publishers, teachers, booksellers, etc.) became extremely concerned after seeing that the CPSC intended to include books in the definition of "products to children" that would need to be certified as safe. This concern was heightened by a letter from the General Counsel of the CPSC—a letter that states that books are not exempt from the law.

"However, ALA has been in discussion with attorneys, other associations and the sponsors of the original bill. Our analysis is that neither the law nor the legislative history indicates any Congressional intention to include books and even textbooks in the law.

"Please stand by—there is no need to take action at this time. The situation is extremely fluid and every day this week ALA has received new and sometimes contradictory information. The ALA Washington Office is taking measures to ensure this ruling (CPSIA) will not affect libraries and has sent a letter to all Congressional offices alerting them to the fact that we believe CPSC General Counsel has erroneously interpreted the CPSIA to include books. ALA is also monitoring the potential impact on other types of library materials as well.

"Several key Hill offices have contacted the CPSC Commissioners and the General Counsel. We believe that the misunderstanding may be cleared up, so the Commission can focus on children's items that are truly dangerous.

"If we can't get this resolved, we will need everyone who wants children to continue to have access to safe children's books to contact the Commission and Capitol Hill—but, for now, we can stand by until we hear more from our Congressional supporters."

Certifying that a book was "safe" is said to involve lab testing which could amount to $500 per book. The regulation as issued contains stiff penalties for persons distributing or holding these vintage children's books, which, as one bookseller stated, often constitute better than half of all their holdings. And what is most sad about this situation is the apparent fact that *there never has been any incident reported* of a child being contaminated by merely reading a book. Rational people need to confront this unfounded hysteria. Indeed, it seems it's much easier to write and implement a regulation than to first determine *whether* it has merit or is needed.