

250 Years
And The
Dot Is
Still Hot

American Typewriting Fellowship
Newsletter 43

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ATF Newsletter



NUMBER 43—MARCH 2020

Conference Heads to Wisconsin

The twenty-second Biennial Conference of the American Typecasting Fellowship is set for July 30 thru August 2, 2020, at Dodgeville, in the “driftless region of southwestern Wisconsin.” David MacMillan, Sara and Ky Wrzesinski are sharing host responsibilities. Optional one-day technical sessions are planned for July 29 and 30.

The official hotel for the Conference is the Best Western Hotel at 1130 N. Johns Street, Dodgeville, Wisconsin 53533. Our group rate is \$109.99 for weekdays, and \$149.99 for Friday and Saturday. Direct phone at the hotel is (608) 935-7739.

Technical sessions, open houses and various seminars will be staged at The Montfort House of Art & Craft (Sara and Kylian Wrzesinski’s shop), 40 miles away, and at the CircuitousRoot, eight miles away, David MacMillan’s shop. Our group is encouraged to “ride share” to these locations

General registration fee for the Conference is \$125.00. Guests may take meals with the group for \$60.00. There is a \$10.00 fee per table at the Swap Meet. Fees for technical sessions, plus details on what subjects will be taught are to be announced later. Registration forms have been mailed to all on the ATF mailing list. You may obtain a copy at <http://americantypecastingfellowship.org/registration.html>.

Checks and forms should be mailed to The Typemakers’ Society, Inc., c/o ATF 2020, 3019 Elm Lane, Middleton, Wisconsin 53562.

Program for the Conference is far from being finalized, but sessions already are planned for pantographic engraving of matrices, hands-on Thompson, matrix electroforming, machine shop needs for typefounders, from Ludlow to Print,

the Barth typecaster, Monotype Composition Caster, and design to matrix by computer via CNC engraving.

A keepsake packet is a treasured aspect of every Conference and all are encouraged to either send them ahead to Sara Wrzesinski, 3019 Elm Lane, Middleton, Wisconsin 53562, or bring them with you when you come to the Conference.

Late-breaking information regarding possible contingencies caused by the coronavirus epidemic will be posted on <http://americantypecastingfellowship.org>.

What Should You Bring To a Typecasting Conference?

Foremost, bring comfortable shoes and clothes which you won’t mind getting dirty. You will be on your feet a lot during visits and demonstrations and you should expect to get a little dirty. Casting machines rarely are found in formal living rooms, you know?

If you have an item you can’t identify, bring it along. We guarantee that if it is related to type making, there will be someone present who can identify your mystery item—and might even want to buy it from you.

Bring all your spares and duplicates. The Swap Meet is where you can sell direct. The Auction, which will follow, is where you can bid against your enthusiastic friends for those “gizmos” that you passionately need. In that regard, be sure to bring your check book or lots of cash—we don’t do credit cards at the Auction, by the way.

Explaining Our 250-Year Cover

This effort is to explain the cover of this issue. Make no mistake. The cover is printed direct from assembled type characters. This is not a polymer plate or any poor excuse like that!

It began (as things often do) when I was looking for something else. I pulled out a copy of the Spring 1958 edition of *The Monotype Recorder*, the house organ of the British Monotype Corporation. The cover grabbed my attention because I am a nut when it comes to assemblies of typographic ornaments and that issue's cover was wonderfully presented. The lead article in that *Recorder* was titled "Typography for Hospitality by the British Transport Commission." You would never guess that the edition was all about using ornament assemblies to spruce up everything from a memo pad to an annual report. It was a good discussion of the subject, but the title sure didn't give a hint.

Here's a quote at the tail end of that article:

"Today the printers' flower is an object lesson to those industries that produce things by arranging or assembling standard components because it proves, beyond all argument, that modern industrial techniques are not incompatible with freedom for designers and craftsmen in shaping the things to come." I think they were trying to make the point that it's all right for the compositor to fiddle with and integrate ornaments into even the simplest of office forms. I doubt the readers were receptive, but at least they tried.

Curiosity overcame me and I started looking through my collection to determine whether I had all the ornaments used on the cover. "Maybe I could reproduce that assembly?" To my great pleasure I found I had both matrices and sometimes cast type for eight of the nine ornaments employed in the original setting. And I found an asterisk-like character which, I felt, would be a fair substitute for their use of 10 pt. Ornament No. 1283 (cast on a 12-point body) from the

British specimen book. My substitute character is seen around the perimeter of the assembly.

Is my work an exact duplicate? Not quite. The overall dimensions are smaller and the strip rule making the inner box is different. Plus that one substitution mentioned above. Just the same, I had a great time putting this cover together to announce this forty-third edition.

Characters used:

Body Size	British Matrix	American Matrix
18x12	230	None
18x12	231	None
12x12	268	600N
24x24	311	1234
24x24	312	1235
24x6	313	1236
24x21	314	1237
24x21	315	1238
10x10	1283	Unmarked

So what about "250 years," alluded to on the cover? So it happens, a guy named Abel Buell of Killingsworth, Connecticut, first advertised that he had discovered the art of casting type and that he was launching a typesetting business in competition with his brethren in England, who at that time had a near monopoly on type sales in the American Colonies.

Now we are 250 years later. Typefounding as an industry blossomed in the United States and really made a splash in the 1800s clear up through the mid 1900s, and then it started to disappear. You might say it now has all but disappeared, except when used by nuts like ourselves who insist that the technology is still astounding and deserves more than to be completely lost, except for a brief mention in history books.

(Pardon the informal nature of this edition. But after all, it is labeled "Newsletter," and it's being published by a nut who thrives on telling others about his mysterious, sometimes hysterical

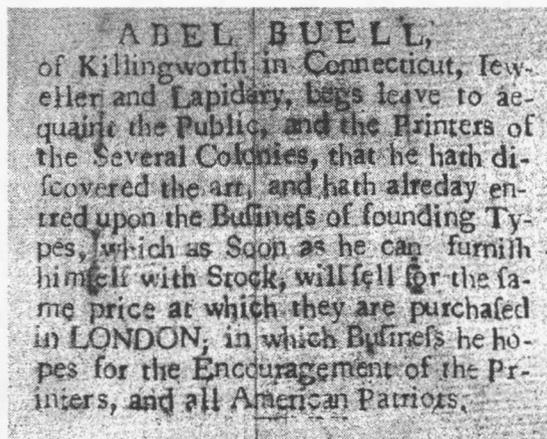
adventures in typefounding here in the twenty-first century. And yes, I realize it is no longer 2019, so I missed the 250th anniversary by one year—but I had good intentions.)

No, I had not studied the chronology of things sufficiently to have known the date of Buell's landmark activity. Fact is, I came across it by chance, spotting Buell's familiar notice in chapbook number 20 titled *Typographic Heritage* by Lawrence Wroth, done in 1949 by the Typophiles. Of course, at the time I was looking for something else. The caption under the specimen said it was printed in May 1769. I clicked my calculator and came up with the startling answer: 250 years!

So now I fill you in a bit concerning Abel Buell. I researched the Internet and found that a book had been written by the same Lawrence Wroth titled, *Abel Buell of Connecticut. Silversmith, Type Founder & Engraver*. I did some serious searching in my own library and was delighted to find I had bought a copy some time earlier.

Details: The book was written by by Lawrence C. Wroth and published in 1958 by the Wesleyan University Press, Middletown, Connecticut. Fine black cloth hardcover with dust jackets. Fold out illustrations. 102 pages. Original sale price: \$7.00.

Abel Buell (1742-1822), was born in Killingworth, Connecticut. He acquired a surprising list of talents behind his name: a goldsmith, silversmith, jewelry designer, engraver, surveyor, type manufacturer, mint master (he minted coins), textile miller, and counterfeiter in the American colonies. Apparently he was a brilliant person able to do any task put before him. But he obviously wasn't able to discipline himself to remain with anything long enough to exploit his skills or gain financial security. So we find him at age 22 being convicted of counterfitting the paper money used in Connecticut at the time. He altered five-pound note engraving plates into larger denomination plates, and then printed them on a homemade printing press. He received a relatively light sentence of branding above the forehead under the scalp. Because of his youth, he avoided serving time at the Norwich, Connecticut, prison



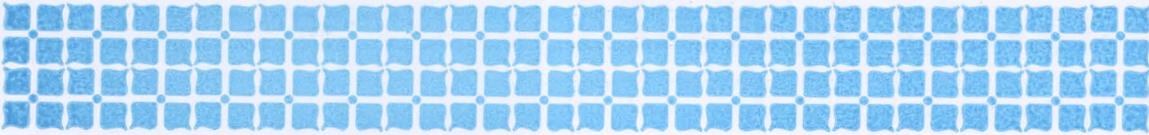
ABEL BUELL,
of Killingworth in Connecticut, Jeweller and Lapidary, begs leave to acquaint the Public, and the Printers of the Several Colonies, that he hath discovered the art, and hath already entered upon the Business of founding Types, which as soon as he can furnish himself with Stock, will sell for the same price at which they are purchased in LONDON, in which Business he hopes for the Encouragement of the Printers, and all American Patriots.

*First proof struck by
American Types—1769*

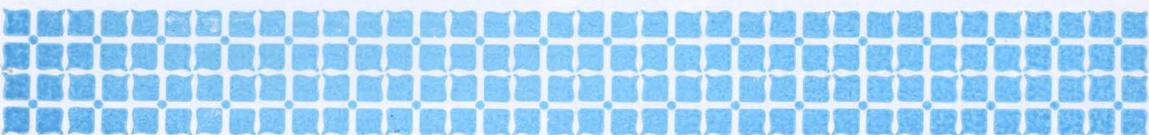
with a commutation to "town arrest." He was married four separate times, moving around a lot to avoid financial debts. One example: he lived for three years in Florida while his wife worked off his debt back in Connecticut.

Wroth's book details his various adventures so I won't delve into them. Buell's main claim to fame today is his "discovery" of typefounding. As early as 1767 he began experiments in that realm. Off and on he made attempts at typefounding until 1780. He elicited funds from the Connecticut Colonial Assembly for 100 pounds to enable him to establish a typefoundry. But as Wroth notes, "he knew how to do everything except become a prosperous, successful citizen."

He did master the process of making matrices, the hand mold, and did supply type to Connecticut printers for a brief time. The rough proof shown herewith was of his first work. He perfected his skills significantly later and samples of that work are surprisingly good. But his success was not to be, primarily, because his interests were so diverse. His life came to an end in a New Haven alms house, a destitute man of 81 years. Only a few years later, Archibald Binny would establish, in Philadelphia, what became the first successful type foundry in the United States. That lineage carried through to American Type Founders, but that's another story.



ABEL BUELL



of Killingworth in Connecticut, Jeweler and Lapidary, begs leave to acquaint the Public, and the Printers of the Several Colonies, that he hath discovered the art, and hath already entered upon the Business of founding Types, which as Soon as he can furnish himself with Stock, will sell for the same price at which they are purchased in LONDON, in which Business he hopes for the Encouragement of the Printers, and all American Patriots. May 1769



Hill & Dale Private Press and Typefoundry

Continuing in 2019 the Tradition Abel Buell Began 250 Years Ago



This presentation was done in 2019 as an experiment in rendering an historic document in a different “period” format—mimicking the avant garde mood of the 1920s. The face in various sizes is Lanston Monotype’s Sans Serif Light. Mac McGrew in his American Metal Typefaces . . . says the face was based on Rudolf Koch’s Kabel.

Sol Hess, Lanston’s type designer, carried the design to eleven variations and also offered “alternate” characters for A J W Y a e g j t u (not used here) to make the face resemble Futura, which Lanston did not offer at the time. Additional alternate characters were done in display sizes to render the design more “artsy,” a feeling much in vogue at that time.

Origin of the Lariat Type Design Is Revealed

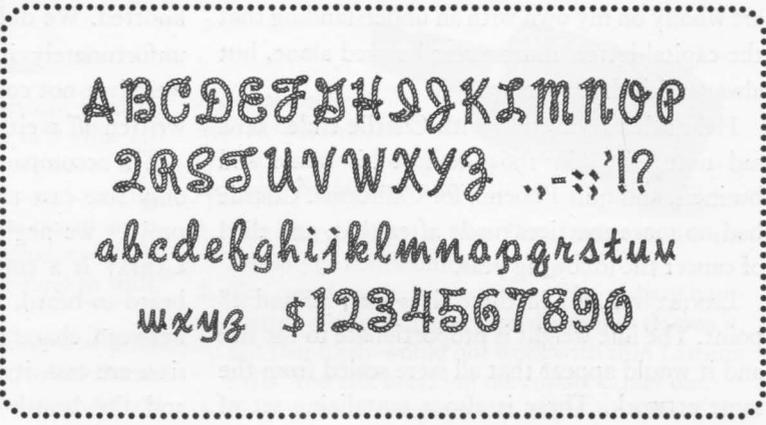
By SKY SHIPLEY

Skyline Type Foundry LLC

Charles Broad was a well known man in the typesetting community in the late 1950s. In association with John Carroll he began reviving 19th century type faces, having matrices fabricated by various sources including a Japanese company. He called himself “Mr. Antique” and at his death in 1965 he was actively advertising and selling a lineup of more than fifty antique revival faces in metal through his one-man Typefounders of Phoenix. His output was prolific and even today, many hobby letterpress printers have a font or three of Charlie’s type.

After his death, the Phoenix matrices were acquired by Los Angeles Type Founders who continued to produce the type. LATF eventually went the way of the rest of the legacy type foundries, but fortunately their matrices were purchased by Si Patel’s Barco Type in Bensenville, Illinois. Barco was winding down as well and did little with them, and in 2011 Barco was bought out by Skyline Type Foundry. By this time the artistic letterpress revival was in full bloom. Skyline, back in Charlie’s home state, immediately began casting the antique faces and continues to do so, filling a healthy demand for them.

Of all the type faces Charlie released, there was one and only one that he originated: LARIAT. Mac McGrew in *American Metal Type Faces of the Twentieth Century* states only that it “was designed by Helmuth [sic] Thoms in 1963 for Typefounders of Phoenix, but released in 1965.” Nothing more has been publicly known about the origin of LARIAT. However, a four-page typed letter by Helmuth Thoms has recently surfaced, dated March 26, 1983, to John L. Risseuw—longtime head of the well-equipped letterpress



ABCDEFGHIJKLMNO P
QRSTUVWXYZ , - : ; ' ! ?
abcdefghijklmnopqrstu
vwxyz \$1234567890

studio at Arizona State University, now retired. John has graciously provided a copy.

In the letter, Thoms is replying to John’s request for historical information about Charlie and his business, and describes him as “a strange and very likeable person.” He relates, “As a young man I opened a small engraving shop in Toledo, Ohio. I made hand-engraved rubber plates used in printing corrugated cardboard boxes. Portions of these printing plates required hand-set type used in making molds for rubber printing plates. This business became very large and profitable and after ten years I sold out.” Thoms then worked for an advertising publisher, where he did paste-up and design work, and began to develop a growing love for typography.

Moving to Arizona with his family, Thoms purchased the Color-Craft silk screen business and continued to dabble in typographic design. The house he bought was next door to Charlie. Soon they were collaborating on the antique revivals, with Helmuth’s typographical talents being just what Charlie needed in preparing the artwork for matrix-cutting. He enlarged and perfected proofs of actual type: “A lot of these proofs he gave me to work on were badly smashed, worn out and various amounts of characters missing.” Thoms states that the two most difficult projects were CIRCUS and DIMENSION. For the latter, he drew figures to match the quite bizarre font.

In writing of the LARIAT design, Helmuth explained "I designed and furnished the necessary art wholly on my own with an understanding that the capital letters must never be used alone, but always with the lowercase."

Helmuth's association with Charlie ended on a sad note when in 1964 he lost his home and business, and quit Phoenix for California. Charlie had no more matrices made after that, and died of cancer the following year.

LARIAT was cut in three sizes—24, 36 and 48 point. The line weight is proportionate to the size and it would appear that all were scaled from the same artwork. There is also a tantalizing set of thirteen matrices for a matching border, in the 36

point weight. It consists of various segments of rope—straight, curved, branching, looping, and knotted. We did test castings of these mats, but unfortunately it was found that the elements were just not combinable, so the border must be written off as either experimental or a failure.

The accompanying proof is of the 24 point, the only size cast to date at Skyline. In doing this project we neglected to take into account that LARIAT is a connecting script, and it was cast beard-to-beard, resulting in an awkward space between characters. At such time as the other sizes are cast, it will have to be done face-to-face and the beards hand-dressed off both sides of every individual piece.

Static Atrocities Remind Us of What We Seek to Do

I was trundling the back streets of Warrenton, Virginia, after an enjoyable afternoon "in the park" witnessing my oldest granddaughter singing in an Andrews Sisters act presented by a "big band" performance. Then I stumbled across a big red thing sitting on the sidewalk. It seemed a trifle recognizable, so I stopped to study and sure enough, it was the hulk of what once was a Linotype machine.

It had most of the loose parts ripped away. what was left was spray painted fire engine red.

A plaque on the nondescript building which still was the newspaper office, said the machine had served the little newspaper published there for over 35 years. What a horrendous fate for such a workhorse.

It grieves me to see relics of our letterpress era so poorly presented.

I was visiting the U.S. Government Printing Office. At the front of their auditorium stood a Monotype keyboard. The keybuttons were resting at a strange angle and it was covered with dust. I commented to my escort that the keybars and the keybuttons were not compatible with each other and could I help? "Naw. I am pretty sure they just welded it all together so it wouldn't fall apart." This was the only hint that over one

hundred Mono keyboards once served the GPO.

Paul Duensing was the first to tell me of such atrocities. He spoke of a plant in Michigan which had a Monotype Comp Caster mounted on a high concrete pad in a grassy area in front of the building. Like in Warrenton, the machine in its entirety was covered with thick coat of red paint. As you learn elsewhere in this issue, Monotypes stored in absolutely appalling situations where they have been subjected to rain and abuse, still can be resurrected if they are adopted by the right kind of benefactors. Linotypes, perhaps, are more difficult to reclaim. For sure, a thick yucky coat of red paint will seal the fate of any machine subjected to such abuse.

This all causes me to focus on our goal for ATF—to preserve not only the equipment, but the *technology*. A dead Linotype, a dead Monotype, or a dead platen press reveals nothing of what each did, nor how well it performed. These wonderful machines from yesterday become fascinating and are truly appreciated only when they are demonstrated *in use*. So go find a young man or woman and teach that person how to run your equipment. Only then will he/she truly appreciate what the machines can do. *We certainly don't need any more red paint.*

Using Spray Paint to Fix a Matrix

BY DAN JONES

Newmarket, Ontario, Canada

If you have ever worked with American Lanston electroplated matrices you know once in a while (always at the wrong time it seems) they are not so simple and predictable to cast with compared to English Monotype punch-driven, chrome-plated mats. However, if used carefully, the type produced from Lanston matrices is just as good as the English stuff.

Some issues are as follows:

1. Porosity in some of the electroplating that gradually opens up and fills with type metal (fortunately not so common, but all it takes is one bad matrix in a font).
2. Copper centers that come out of the brass mat.
3. Under-cuts to the matrix that do not allow type to come out cleanly, giving pulled-up corners or broken-off kerns.
4. Inconsistent character alignment.
5. Variation in type height (depth of drive).

I have also seen these mats warp (albeit an extreme example—a 36 point tint block).

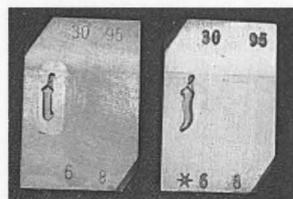
These issues are what I have seen from time to time. However in general, Lanston matrix quality is not a problem; the electro matrices produce very acceptable type.

I believe type height was also a concern at the factory. The normal Lanston mat has a copper center containing the image, framed by a brass body. But I have one instance of a mat where the outer area also was copper plated, presumably by Lanston, to slightly increase the depth of drive. I suppose it was cheaper to add the thin film of plating rather than throw the matrix out.

I find type height a constant concern and I make regular checks when I cast. I also test the first completed font with old fashioned 'proof' paper (really just smooth coated stock) and a light impression.

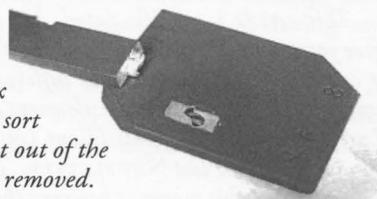
If I find a character casting slightly too high; careful sanding of the whole surface of the mat can bring it into spec—that is if you own the mat.

What do you do if the type height is below spec?



The left mat is a standard brass Lanston mat with the copper center. At right is a mat which has been plated over the entire face to gain depth of drive.

A painted matrix with the painted sort (which kept paint out of the face area) freshly removed.



1. You can borrow a mat from someone in the Monotype community.
2. You could try the old type foundry's trick of hammering a cast character into the mat to deepen it, but that likely would not work with thin Lanston mats. You risk breaking the copper center out.
3. You could electroplate the entire surface of the mat as mentioned above, but you need a plating setup in order to do that.
4. I have found a fourth option. We must say this is still in the 'experimental' stage, but worth passing on—spray paint it!

I had a spray can of high-temperature black paint in my shop, bought to clean up the appearance of my barbecue. The can said the paint was good to 650 Celsius. That is quite hot. I currently cast at about 750 F (400 Celsius). So I placed a sort in the matrix and spray painted around it. It worked!

The individual spray coat must be kept thin so that it does not form a 'meniscus' or radius between the horizontal mat and the vertical type sort. A light spraying gives about one ten-thousandth of an inch added height. Spray layers need to be even thickness all around and fully dry between coats. In my case the desired half-thousandth of an inch was attained by multiple sprayings. The mat can be tested by making a cast and more paint applied if required.

My painted matrix produced the required height to paper. There may be small variations in the overall paint thickness, so metal 'flash' might appear quicker than with normal operation, requiring cleaning and careful checking of type height.

If necessary, the paint is easily removed with solvent and re-applied. When finished casting, if you remove the paint, leave a note in the matrix box for yourself or the next guy. I wonder if this process could also work to temporarily 'fix' the slightly depressed portion on worn molds?

In later years Lanston did produce display matrices by driving steel punches into brass or aluminum blanks. These mats are far more accurate than the electro versions. The aluminum, however, is very susceptible to corrosion.

Giant Caster Restored, Again Making Type

This article is a trifle dated, but nevertheless does give you a good follow-up on one man's efforts to revive a casting machine which had suffered extremely poor storage and exposure to the elements for several years. Larry had a photo of this Giant Caster (in its awful condition) in the last NEWSLETTER. This is a follow-up to show his success at reviving the machine.

By LARRY JOHNSON
Cantonment, Florida

I had a gentleman call me one day about a Hacker #4 Proof press he owned along with two type casters in Knoxville, Tennessee. These were part of a business that his father started many years ago. The building they were in had long been abandoned as going business, but he still had ownership. The building was in bad shape, the roof was caving in and the county was making him tear it down in a few months.

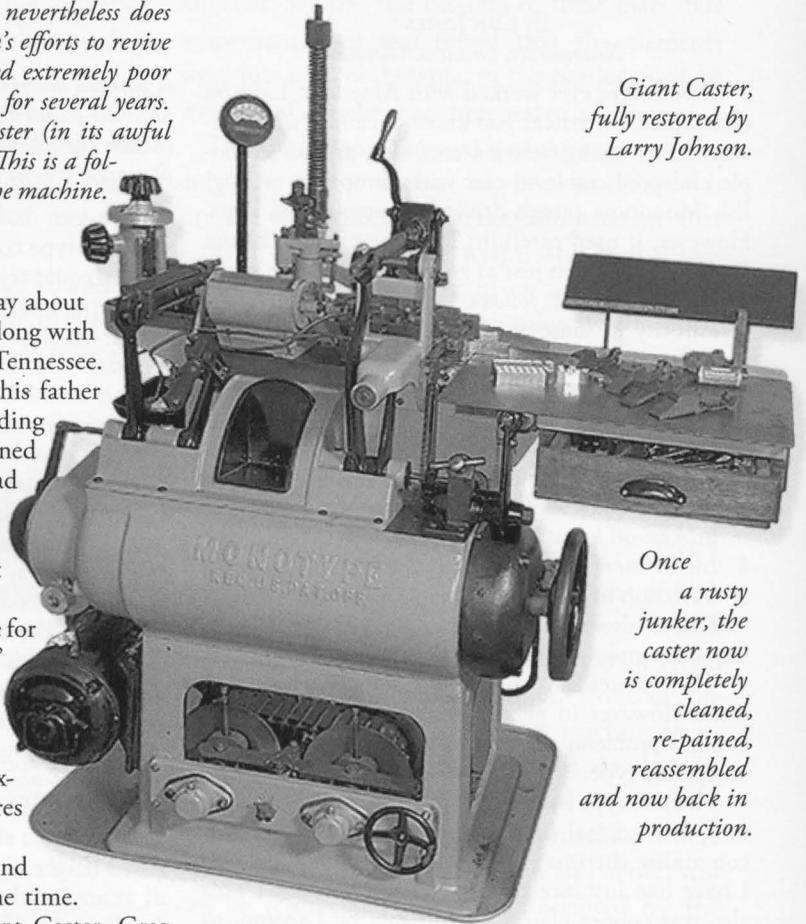
I told him I was to be in Nashville for the first showing of "Pressing On" and that I would stop by. During the film I saw Greg Walters with all of his type casters, and after the film told him about the casters in Knoxville. He said to send him the pictures once I stopped by to look at them.

The casters were in poor shape and had been in the rain for quite some time. There was a Thompson and a Giant Caster. Greg gave me a quick rundown on them once I got back to Pensacola and sent the pictures. The Thompson was missing so much that I decided it would be a parts machine. The Giant, on the other hand, was complete enough and would turn over by hand, but needed a new mold and baseplate. I decided this would be one to resurrect.

I took a trip to see Greg in Piqua, Ohio, to spend a day casting with him on his Giant Caster and learning about casting in general. We cast on the Giant all day and had a blast making Cloister initials. At the end of the day he supplied me with a replacement 42 point mold and some mats (and later a base) in hopes that I could get the old Giant going. My goal was to first see if it was functional before I tore it down completely for a refurb.

First thing I did was to disassemble the mold and base and get it cleaned up enough to fire up the mo-

*Giant Caster,
fully restored by
Larry Johnson.*



*Once
a rusty
junker, the
caster now
is completely
cleaned,
re-painted,
reassembled
and now back in
production.*

tor. With plenty of oil and prayer she fired up and ran. I heated the pot. I was cautious, since so much rain had fallen on it. I was afraid the pot might have some water in it, so I kept my distance. I used an in-line converter to get it to run on propane, and sure enough about 30 minutes later the metal in the pot exploded, shooting molten metal in a 8 to 10 foot cone on one side of the machine.

After I got it fired up and running I added old base and mold (which I cleaned up) to see if I could get it to cast. I didn't want to put the new mold on it and at that point because I did not have the new base. I found that the pump body lever was weak and broke and I found out why. The rod that the pump body was in was frozen solid and would not move, finishing off the already broken-down pump body lever.

At this point I had to take out the frozen rod and this took a torch, rod and hammer. Once out, I cleaned it up and reassembled it so the pump would move up and down out of the way of the nozzle hole. Next was the pump body lever. It had already been repaired once and I brazed it again. Unfortunately, this did not work and I was forced to make a new one. I made a temporary part with one leg of a three-jaw puller. This worked so well I may keep it as a permanent fix. Then I started casting with it. It would not cast more than a few pieces before it would squirt or freeze. I had to go through all adjustments one by one, studying the manual.

After practice I was able to get it to cast 20 to 30 pieces of type without stopping. At this point my lack of experience was the biggest issue. The caster was loose in some areas; the bolts would not tighten down. What was not rusted shut was working its way loose because of exposure to the weather.

Another thing I overcame at this point was heating the pot. An LP gas converter was not working out. I could not get the level of heat I needed. So I took the converter off and attached a modified crawfish cooker and this works very well—now it is easy to control the temperature.

At this point I decided to tear down the machine completely and begin a full restoration. I'm not sure how other people disassemble a machine they are not familiar with, but my method was to take it down in "part groups." Then these groups were further disassembled later during the restore. Each part or part group was videoed with commentary as I tore the machine down. Bolts were stored with each piece.

Disassembly was easy with only a few areas of trouble. The pot crank was the hardest to figure out with its worm gear at the end. Some of the bolts were loose, but most were rusted shut. I broke two impact screwdrivers during the two days of disassembly.

I began reassembly at a slower pace with the base and body. For cleaning up the parts I use Jasco® Premium Paint & Epoxy Remover to breakdown paint, oil, ink, etc. I paint the part with Jasco and then pressure wash it off—twice if needed. Then I use a wire wheel on a drill to knock off any crud and rust that remain. I wipe it down with acetone, tape up what needs to remain bare and paint the part.

The pot required special attention. The adjustment screws were rusted shut so there was no way to get the pot adjusted to center the nozzle. I used the torch to

help remove screws but many broke off anyway. I had to tap them out for reassembly. The walls inside the pot were packed with mud dauber nesting. This obstruction was causing heating issues during my initial assessment of the machine.

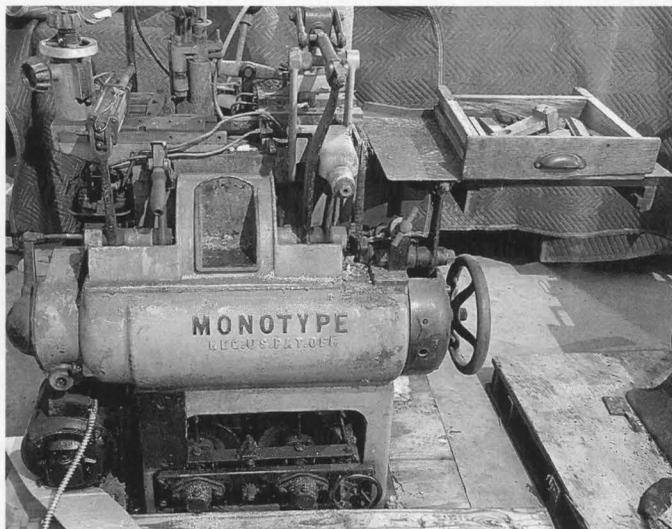
I also restored the wooden drawer, washing it down with Murphy's oil soap and wiping it down with Teak oil. I rebuilt the water system so the mold could be properly cooled.

After all parts were cleaned and reassembled I went over adjustments again, following the *Adjustments of the Giant Caster* manual. I installed a new base and 42-point mold which came from Greg and began casting. It still took tweaking, learning, the right amount of oil and water, but the machine finally obeyed and began to cast continually.

At this point I made another trip to see Greg Walters to acquire a few cosmetic parts that needed attention. We loaded up a Giant Caster parts machine and I brought it back to Pensacola. Scarfed from this machine were the calculating scale for strip material, galley plate and galley stand. I also replaced some worn parts including one piston lever, the cross block head, several rods, fulcrum pins and brackets.

Happily I now am slowly learning the techniques of making good type and I am well on my way, utilizing a machine that not so long ago was scarcely more than a rusty hulk which others would have trashed without a second thought.

*Larry Johnson's Giant Caster—
before restoration there was plenty of rust,
grease, dirt, and a great need for cleaning.*



The Amazing Resiliency of These Old Typesetting Machines

Old Molds Generally Are Still Good Once You Have Cleaned Thoroughly

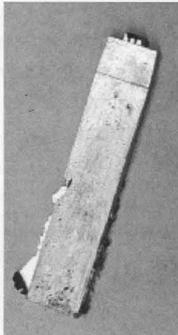
Even fifty years after my machines were designated for the trash heap, they continue to operate and turn out amazingly good type. On more than one occasion when having difficulty getting expected results, I pondered whether, perhaps, my equipment was wearing out.

Most recently I was using a 13 point American “dog house” composition mold. It started out OK but after one galley, the quality of my type became far from acceptable.

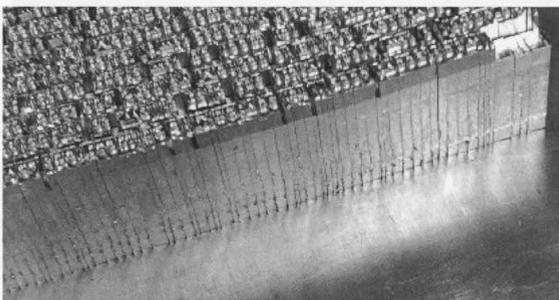
I fiddled and fought, wanting to get out more production. Things just got worse. Type was coming out with fins on the right side of their bodies, and a burr at the foot.

All sorts of issues *could* be the problem, but since things had been OK at the start, I figured my problem was with the mold itself. Unfortunately, the only way to troubleshoot a mold is to remove it from the caster and tear it apart.

It’s amazing that these molds, which now are nearing 100 years old, generally still function as they did when new—to spite the fact that



Type with burrs on sides.



Little fins at the base of each letter foul up letter alignment and make lockup very difficult. When they appear, most likely your crossblock has come apart ‘just a little bit.’ It won’t be long before the machine will come to a crashing halt!



Fins of metal on top of the low quads give a hint that it soon will be time to disassemble the mold and clean up inner components of the mold blade.

they run steel-against-steel at speeds often more than two characters per second.

I also was getting partial high-quads when casting wider low quad characters. That problem involved the inner-workings of the mold blade



Problems occur here.

This is the opposite side of the mold blade assembly.



The tiny spring is essential to proper operation.

and necessitated a complete tear-down. There’s a tiny little spring which actuates a flange-to-abutment within the mold blade itself. If you are lucky, a bit of oil squirted into the mold will solve the problem. But more likely dirt or tiny pieces of type metal have gotten into the abutment-flange area. There’s also may be a graphite buildup involved. You must take the mold blade completely apart (be sure not to lose the tiny spring) and clean it thoroughly. There is *absolutely no play* in this mechanism. To avoid partial high quads it must close completely. If anything is in the way, the problem will persist.

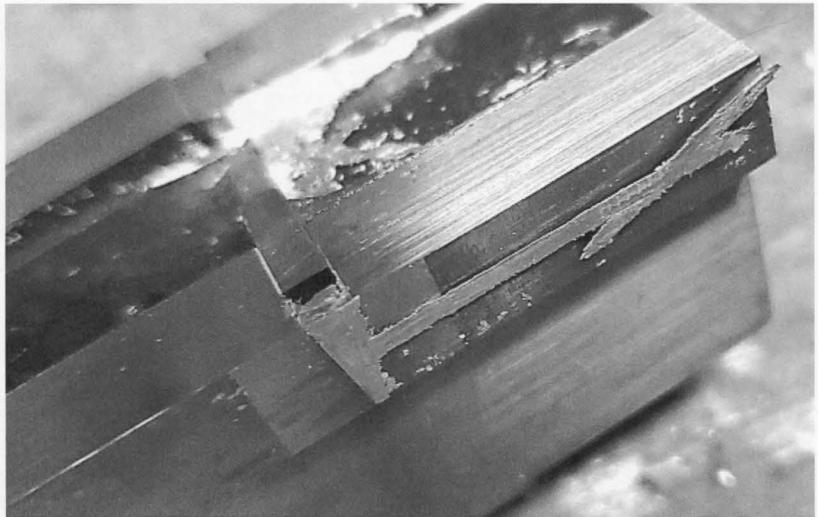
Metal used to make these parts is highly tempered and rarely shows wear. So take a fine-toothed file and file the areas which come together to form closure of the low quad mecha-

nism. The file won't cut the steel itself, but will remove any crud that has gotten in the way.

Whenever you have a mold apart, take absolute caution to assure everything is thoroughly clean and free of foreign matter. *The thickness of a human hair inside this mechanism can make it malfunction consistently.*

I usually clean with standard type wash, using a clean, soft cotton rag. I further wipe parts with a soft paper towel. If there is any evidence of graphite buildup, I rub the part with an Arkansas stone until all evidence of the buildup has disappeared. I do not lubricate until all parts are back in the mold and working properly. Then a drop or two of oil is all that's needed.

When using the Arkansas stone, keep flat surfaces firmly against each other, never allow the stone to slip off the edge. That tends to



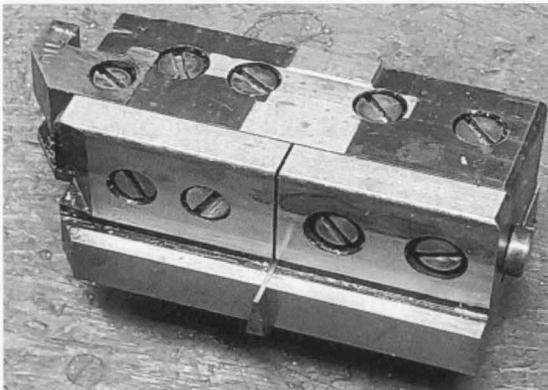
The underside of the crossblock showing the jet ejector clogged with splashed metal. You can detect looseness in the crossblock adjacent to the jet ejector. This caused the problem. The venting channel to the right of the jet itself is clogged with metal. This was an aftermarket mold modification designed to let air out of the mold. It being clogged is evidence that the mold was being run too hot. The channel should be only partly filled with type metal.

round edges and that's the worst possible thing that can happen to mold parts.

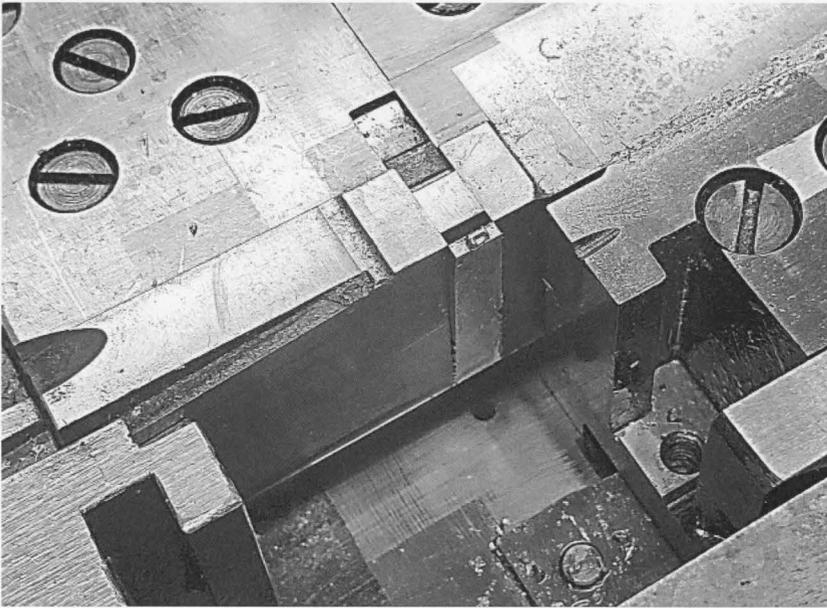
If you're not having trouble with the upper mold blade, then most likely you won't need to disassemble the inner parts of the mold. Instead, all your problems are with the crossblock.

The "block" name for this part is misleading, because it's made up of nearly two dozen parts and each needs to be taken off, thoroughly cleaned, and re-assembled with extreme caution. An almost invisible chip of metal underneath the left portion of the mold block will cause it to improperly align with the right side. If that happens, you will always get a fin on one edge of newly cast type. No amount of tightening or readjusting will solve this problem. If you have a precision straightedge, use it to check the crossblock before putting it back in the mold to make sure everything aligns properly.

Four screws secure each side of the crossblock. You would think they would hold it securely. Not so. The right portion has a 'stop' underneath which restricts its positioning but there may be a trifle bit of play in that 'stop' so



This is the assembled crossblock. The jet cutter is extended at the bottom for visibility. The left portion has a 'stop' built in to restrict positioning. The right side is adjusted with the screw shown on right end of the crossblock.



This extreme closeup of a piece of type just slightly pushed out of the mold. (It's difficult to get such a picture, by the way!) If you study the type closely, you will see tiny fins on both the left and right edges. If the fins appear equally on both edges, then the two screws which tighten the crossblock against the mold need to be adjusted tighter (but just a trifle). If fins appear only on one edge of the type, that is clear evidence of misalignment within the crossblock itself.

make sure to push the part all the way to the left before tightening. If you fail to do this, the piece may slip when tightening the right edge against the jet cutter; that slip may not occur until you begin using the mold.

Only use a screwdriver with a blade that's perfectly matched to the screw slots. Do not let the screwdriver slip.

If you fail to cam down tightly on all screws, there's a good chance the crossblock will loosen and start casting "finny" type soon after you have reassembled the mold. That can be fixed only by removing the crossblock and starting over again. In operation, the crossblock is in constant motion back and forth, *It will work itself apart if the screws aren't firmly tightened.*

I failed to tighten my 13 point mold and it began producing lousy type with fins everywhere. I was stupid enough to keep the machine running. It pumped metal under the crossblock around the jet cutter (shown on previous page) suddenly it jammed the entire caster. I could not cycle the machine even the slightest amount.

If this happens, it is a major problem getting the mold out of the machine so you can clean up the metal mess. It will involve removing the matrix case, the bridge, the type carrier, the

mold hook, and finally, the mold itself. Figure a couple hours of work minimum! It's a lot easier to stop the caster and perform necessary maintenance *the instant problems become visible.*

The last step in reassembly, by the way, is placing the assembled crossblock back into the mold. The front edge of the crossblock is adjusted against a loose metal bar which features an open oil channel on its top. All is held together with two screws on the front of the mold. Adjustment is very touchy. You want the crossblock to move easily, but not freely. Both screws have locking nuts on them and often, when you think you have the adjustment made, tightening the lock nuts will foul the adjustment. Turning the screw 5 degrees often is the difference between good and bad type. Additional adjustment also might be necessary once the mold is back to temperature. That is why crossblocks in *cold molds* often seem so very tight.

MAYBE in the next Newsletter? You might be interested in a couple filler pieces. I could show how Jim Rimmer made Thompson nozzles out of large bolts; and how he managed to cast English display mats using his American mat holder. The guy could literally make something out of nothing! —Alex Widen, Clinton, B.C. Canada.

Take Extreme Care When Adding New Type to an Old Case of Type

The message shown here was contained on a tiny scrap of paper Sky Shipley pulled from a font of 10 point Goudy Bold—a font which still was new and in original wrappers, obviously cast by American Type Founders sometime around 1936. The significance of this scrap is highly relevant to all type *new or used* you might be buying now or in the future.

What the piece of paper said to ATF customers was that for whatever reason, they either changed the mold and/or the machine which had been used previously for casting the font. The new mold did not have the same nick configuration built in but ATF was assuring customers that though the new type might have different nicking, the new type assuredly would match the set widths and alignment of type which previously had been bought from ATF.

Let's review protocol as it was followed at ATF. ATF had a series of steel standards which supposedly were adhered to in casting any and all fonts regarding their "standard alignment." That being said, a second check was made to assure consistent alignment using a "master font." ATF retained master fonts of all fonts cast in the foundry and each time a font was to be cast again, the master font would be retrieved and meticulously matched when the new casting was done. Even that was not sufficient to assure ATF's quality control standards.

Though the foundry's literature boasted that set and alignment were built into the matrices themselves, that was not necessarily true. The caster operator was required to match the master characters for each different character in the font. Before production began, the foundry foreman had to sign off on his efforts. That was the third check. Still a fourth check was made when the finished casting was to be broken and packaged into fonts. Again, alignment and set were reviewed and anything found askew would be re-cast before fonts were assembled.

Those checks made so many years ago give us assurance even today that if we find in one printing

shop a case of 10 pt. Goudy Bold cast by ATF, if we find another font elsewhere and we are certain it also was cast by ATF, then there's every assurance you can mix the two fonts and everything will align.

That definitely is not true with Monotype castings. Keep in mind that a Monotype casting could have originated in hundreds of different plants. Each plant might have followed different standards—*or none at all*. Monotype did provide steel standards, but there is no assurance these standards were utilized by the different Monotype houses. One small example shall suffice:

Most of the time I cast type for my own use. It likely will never leave my plant. It is very rare that I might have the need for matching the alignment of another font of the same face. Thus, my need to check basic alignment is not important. Certainly if there is type already cast which I need to supplement, I will make sure my alignment matches

the type on hand, but that doesn't happen very often. Therefore, if you were to end up with a font from my shop, it would be highly unlikely that my font would align with a font cast elsewhere.

That's true if you're working with fonts made at Baltotype, at M&H Type, or anywhere else. The simple fact is that you must exercise great caution even if you know that both fonts were made in the same plant. Each time a Monotype Casting Machine is set up there a chance alignment will be different.

ATF had but one plant to control and clearly understood the need for its product to be consistent, year after year for nearly 100 years. ATF had but one font of matrices to deal with. Each Monotype had its own set of matrices. They most likely were made from the same punches or masters. Therefore Baskerville 353 from me, or from anyone else will look the same, *but there is no assurance that they will align when mixed*. Best rule of thumb? Do not mix Monotype-cast fonts unless absolutely necessary. It's a risky proposition and highly likely to be very disappointing unless great prudence is exercised.

CHANGE OF NICK

JANUARY 1, 1936

THIS TYPE IS CAST WITH A DIFFERENT NICK THAN THAT FORMERLY USED. THE OLD NICK WILL NO LONGER BE AVAILABLE. THE FACE, LINE AND SET ARE EXACTLY THE SAME AS FURNISHED HERETOFORE.

AMERICAN TYPE FOUNDERS

Secrets Unveiled As Monomatic Machine is Disassembled

Those of you who have read my book titled *Tolbert Lanston and the Monotype* may recall that I dwelled on the decision made in 1909 by Lanston Monotype to never again introduce a "new" machine. Instead, all improvements thereafter would be retrofitable to existing machines. It was a bold move, especially when compared with the dozens of different models of Linotype machines which were presented to the market over the years.

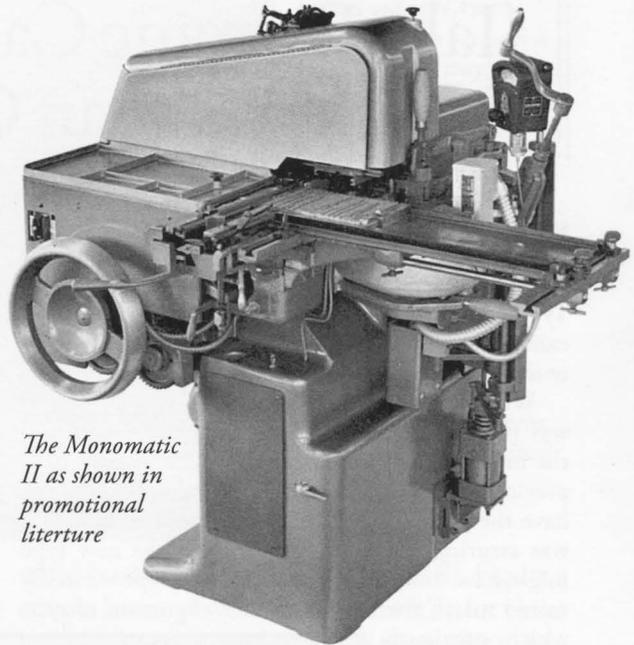
Lanston Monotype adhered to that policy for at least sixty years. To a lesser extent, the British Monotype company adhered to the same policy, but deviated somewhat when its 16x17 machines were introduced with unit shift and other modifications in the 1960s.

Around 1967 Lanston introduced the Monomatic machine, quickly followed by the Monomatic II (the latter being a replacement for its namesake, with the second model created primarily to correct serious problems with the first.) Monomatic machines had a more modern, squarish appearance with lots of metal shields everywhere to conceal the mechanism and to give it the appearance of an entirely new and different machine. They were painted blue.

Not a whole lot is known about the Monomatic because it was introduced so late in the game. Photocompositon had gained good momentum by that time. Also, because the American firm was bounced between several mergers and acquisitions which eventually bankrupted the organization, it was not well promoted.

Bankruptcy brought complete destruction of company records, so it's not even known where the new machine was engineered and manufactured. Rumor has it that it was developed in Switzerland, but that's only a rumor.

Major new features were (1) expansion of the matrix case to 18x18, divided into four quadrants which were individually changeable, allowing up to eight alphabets to be utilized from a single matrix case; (2) the separation of



The Monomatic II as shown in promotional literature

wedge functions from the matrix case, meaning set width and matcase position were separately controlled; (3) the spring-activated pump mechanism was replaced by hydraulics, touting greater pressure and thus, more solid type, and (4) a single set of wedges to replace the countless varieties required by matcase arrangements with the older system. Of course a completely different keyboard system was necessary to drive the machine. There was some compatibility with older machines. Monomatic used the same molds as earlier models, and it used the same matrices. It also used the same paper ribbon and punch reading mechanism.

As complex as the Monotype Composition Caster was, one would wonder whether it would be possible to come up with a better design and, after all those years, replace the original machine with completely new mechanics. Until now, I could not answer that question but the sale of my two Monomatic II casters to David MacMillan and the subsequent preparation of those machines for moving to Wisconsin have revealed answers which could not have

been derived in any other way. Two factors were involved.

First, David chose to remove all metal shields surrounding the machine in order to gain more solid mooring points for strapping down the casters for shipment. When those shields came away, a very familiar machine became visible. It looked very much like the good-old Comp Caster of previous years. The entire base was the same and carried the familiar cast-in word "Monotype." The very same gearbox, cams and levers also were evident.

The second revelation came as a bonus, precipitated by the unhappy discovery that mice had made the top of one of the two machines their home, leaving it literally covered with empty black walnut shells, along with lots and lots of other unmentionable debris. I was very embarrassed that this had happened while the machines were in my custody, so I urged David and Ky Wrzsinski (who accompanied David on the hauling escapade) to delay while we tore it down completely (the top area only), cleaned and restored it to near-operational condition. They agreed and we began disassembling the machine. The fact that it was seized and would not cycle at all made removal of various parts most difficult, but slowly we progressed. To my amazement, perhaps eighty percent of the parts were the same. That meant that for the most part, the machine functioned much as the earlier Comp Caster.

Manuals had been shipped earlier and were not available to guide our effort. Frankly, it was not our goal to operate the machine. Thus, many differences discovered were not fully understood. The first major difference was within the pin blocks themselves. Instead of fifteen pins on each side, there were only ten—nine in standard configuration with a tenth pin a few steps away. Unlike the Comp Caster, virtually all matrix case arrangements on the Monomatic were precisely the same. Laying on top of the pin block was a fragile-appearing plate which apparently was activated by the tenth

pin; this pin somehow shifted the matrix case from one quadrant to another. The normal wedge was completely different and additional components were found underneath the mold blade operating rod and in the area where the normal wedge used to reside.

Someone did marvelous job of retrofitting parts and mechanisms within and around the existing machine parts in order to accomplish the significant changes offered by Monomatic.

The key point is that the original machine was not abandoned. It was retained for the most part, and modified rather than abandoned.

And thus, learning the new system meant that the operator needed to learn how to master the several changes made in the caster, and the more significant changes made to the keyboard. But everything that was new was based on established procedures for the Monotype for over sixty years. It's a shame the machine was introduced so late in the game. Had it been introduced earlier, it would have been far more successful as a hot-metal device. As it turned out, hot metal already was being phased out by most plants, so Monomatic was of little interest to those who a few years earlier would have embraced its new capabilities.

Parts Sought for Both Giant and Thompson

If you hear word of any Giant caster parts (or even a Giant Caster itself with molds) for sale, keep me in mind. I'd purchase one if or when one becomes available. I'd purchase a Thompson as well, should one appear. Mine is most likely going to be a parts machine. It does have a good mold, but I only have 1 30pt body. There is also no piston.

Contact: Larry Johnson, 902 Heathrow Drive, Cantonment, FL 32533. larrykj77@gmail.com

Francis Keehn's Milwaukee Type Foundry

This article about a long-forgotten typefounder was first published in 2018 by Bob in a small handset booklet for the Amalgamated Printers Assn. We are pleased that he has offered to share the piece with ATF.

BY BOB MULLEN
La Crosse, Wisconsin

For Francis Keehn it must have been a satisfying life. He was his own boss and earned a decent income. In the old world tradition, he lived next door to his business and trained his three sons in the craft.

Francis Keehn was a typefounder. He started his business, the Milwaukee Type Foundry, in 1869. In his mid-forties at the time, he was a journeyman typefounder who saw a post-Civil War opportunity to strike out on his own in a nation healing from hostilities and eager for prosperity.

Keehn was born in the Moselle area of France about 1826. His family moved to Pennsylvania when he was five years old. In 1843 he migrated to New York to learn the typefounder's craft at George Bruce's type foundry. In subsequent years he worked as a foreman at the foundries of James Conner & Sons and P. C. Cortelyou. He is listed as a machinist in Boston in 1865. He married Mary Hardy in 1850, and they had six children, born in New York, Boston, and Milwaukee.

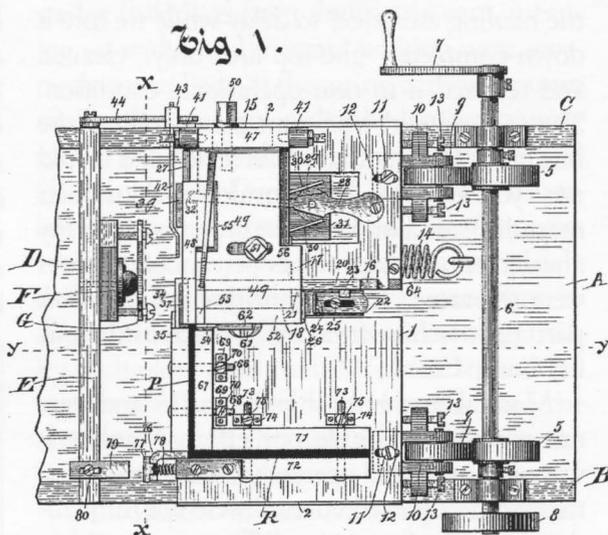
Keehn brought his skills to Milwaukee in 1866 when he purchased partial ownership of the city's Northwestern Type Foundry, partnering with Josiah Noonan. A former newspaper editor, Noonan also owned a local paper mill, but he had no type founding experience when he had purchased the firm three years earlier from the previous owners.

Edward Miller, a typefounder from New York, had begun the Northwestern Type Foundry in 1856. The company changed owners several times during its first ten years. The entire time the firm employed an experienced type foundry foreman, James Reton. Both Reton and Miller continued to work at the foundry when Francis Keehn became a partner in 1866, so there were at least three skilled typefounders employed there.

In the same year, Linn Boyd Benton began working as a bookkeeper for the firm. It is likely that Keehn, Miller, and Reton were early inspirations, possibly mentors, to the young Benton, who in later years would be widely acclaimed for his contributions to the typefounders' craft.

Francis Keehn and Josiah Noonan terminated their partnership when Keehn left to begin the Milwaukee Type Foundry in 1869. Noonan continued with the older Northwestern Type Foundry until the recession of 1873, when he had financial difficulties. He sold the company to Linn Boyd Benton and Edward Cramer.

Keehn was the sole proprietor of the Milwaukee Type Foundry, starting business at 416 East Water Street. Four years later he moved the company to 128 Second Street, into a building adjacent to his home. Both factory and home remained at that location until the firm closed



This complex drawing is from Keehn's Patent dated October 9, 1888, for a 'Type Founding Machine.' It was an attachment to a pivotal caster for breaking the jet, among other things.

its doors some twenty years later. The three-story brick structure measured 18x90 feet, with the foundry on the ground floor. Two manual pivotal type casting machines were used.

The 1880 U.S. Census reported five employees, three men and two youth under 16 years of

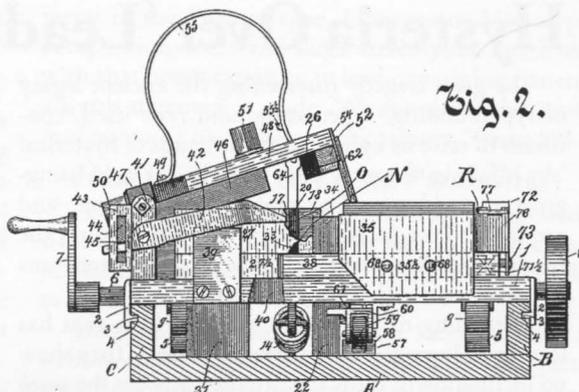
age. Keehn paid \$2,000 in wages that year as the company made \$5,000 in type. A skilled adult worker earned \$2.50 per 10-hour day, while child workers received \$1.00 for an equally long day, six days a week. These were typical wages and hours for 1880. From then until the 1890s there were five to eight workers at the firm, including Keehn's sons David, Fernando, and William. His wife Mary and daughters Liza, Isabella, and Mary at times may also have worked at the foundry.

Milwaukee Type Foundry depended on the publishing trade for most of its business. It mainly cast standard body types used for printing newspapers and periodicals, depending on established customers for repeat orders. It served the trade primarily in Wisconsin and nearby states. The firm also distributed printers' goods and materials. No type specimen sheets are known.

Francis Keehn's company would always lie in the shadow of the city's larger Northwestern Type Foundry (Benton, Waldo & Co. after 1882). Keehn seemed content to run a smaller regional business and simply make a livelihood for himself and his family. Though his foundry kept a low profile, Keehn sometimes took an active role within the broader concerns of the craft. In 1880 he and several local printers presented a petition to Congress opposing a reduced tariff that was being considered for imported type. He was also involved in the Typefounders Association and attended their 1887 meeting in Chicago.

Francis Keehn holds two patents related to the trade. His first patent was granted Dec. 16, 1873 (no. 145,574) for an improved printers' side stick and quoins for locking up type forms. The second patent (no. 390,680) was granted Oct. 9, 1888. It was for an improvement to the pivotal typesetting machines used in his foundry. His invention removed the projecting jet and burr from the type as it was being manufactured. Keehn claimed this would eliminate the need to manually break off the jet and then rub smooth the sides of every piece of type. These jobs were generally performed by young boys and girls in all the country's type foundries. Their rate of production was 2,000 to 3,000 pieces per hour, time consuming work that Keehn's device could eliminate.

An interesting sidelight, and potentially an incentive for his invention, was published in the



Another view from Keehn's Patent drawing. Its complexity is overwhelming. Whether it was put to use in his foundry is unknown.

1888 report of the Wisconsin Bureau of Labor Statistics. When asked what could improve the condition of your trade, an anonymous typefounder, possibly Keehn, responded, "Stop little girls and boys from working in type foundries."

By the 1890s the typesetting industry was changing rapidly. Most of the nation's large type manufacturers combined into the conglomerate American Type Founders Company in 1892. Even more destructive to a small foundry like Keehn's was wide acceptance of the Linotype in the newspaper industry. The Linotype greatly reduced the publisher's demand for large orders of hand-set type. This made it nearly impossible for the Milwaukee Type Foundry to continue.

Keehn was now in his mid-sixties. His wife Mary died in 1895. His children were middle-aged adults who recognized there was no future in the trade for them. So, the Milwaukee Type Foundry shut its doors for good at that time. Keehn retired and his sons found other employment in the city. Francis Keehn is last listed in the 1899 Milwaukee city directory, so he must have passed away about then, though no death records have been found.

Francis Keehn's Milwaukee Type Foundry remained a small, family-run business for its entire existence. It found its place in the trade supplying type to Midwestern newspaper publishers. With nearly thirty years in operation, the company can hardly be considered a failure; it provided Keehn, his family, and several other employees a way to survive in their nineteenth century world.

Hysteria Over 'Lead Type' Is Unfounded

The great tragedy threatening the ancient legacy of typesetting, typesetting, and type itself, continues to raise its ugly head at the hands of hysterical 'sky is falling' fanatics. They base their attacks using gross misunderstanding and misinformation, and are using 'fake facts' as reason for dismantling the treasured archives of metal typesetting in museums or wherever else they may be found.

They cling to the notion that anything that has lead as an ingredient is a threat to society. They show no inclination to study the situation and get the *truth* of the matter before launching their physical (and verbal) attacks on invaluable archives. These attacks range from the frightened mother who pulls her child away from an historic demonstration of letterpress printing (because "they have lead in there"), to "get rid of it" edicts handed down from 'higher ups' at institutions housing type archives. These individuals have no regard for the irreparable damage their ignorance might be fostering.

Lead, After All, Is A Basic Element

The plain truth is that lead does occur in nature. It's a legitimate item on the Periodic Table of Elements where we also find other metals such as copper, tin, gold, titanium, and silver. It's essential to a whole lot of products and compounds used in our daily lives. Yes, it can be dangerous to your health, but the same can be said of such common items as table salt, pepper, hot chili peppers, and even common wheat flour. All these items, handled improperly or used to excess, can result in health problems and even death.

Misinformation Abounds

In doing a Google search of the Internet, the following reference often heads the list when searching for 'lead poisoning in the printing industry' (italics have been added):

Linotype is the "line casting" of type settings used in printing. This machine was widely used from late 19th century to the 1970s to print newspapers and magazines. Nowadays, linotype is no longer used because of the advent of computers and electronic printers. Some linotype operators continue to keep the tradition alive, and sometimes these works can be artistic and more beautiful than modern-day printing. However, linotype does not have a future because it is too old-fashioned. For example linotype requires labor and time compared to modern method of printing. *Another problem with the linotype is that it uses lead-based type-metal, and lead is harmful to*

health. Lead easily evaporates and enters the respiratory system, which may cause lead poisoning. The lead dust from the room can also poison the linotype operator. Linotype operators handled slugs with their bare hands, and they had to be careful not to touch their mouths. Many linotype operators reported that they had lead poisoning. People in the twenty-first century are very sensitive to health concerns. For example, the United States had many court-cases about lead paint, so the government had to make lead-paint disclosure regulations. Lead poisoning interferes with the nervous system, and may cause mental disorders. In the book "Public Health: The Development of a Discipline," the author raises concerns about the lead used in the linotype machine. Lead from the type-metal fumes and slugs are harmful to human health.

This Stuff Evaporates?

The quotation is attributed to a Ray Loomis regarding "Lead, Interfaces, and Linotype Machine," presented by the Baltimore Museum of Industry. No mention is made of his credentials and there is no substantiation of his so-called 'facts.' They are grossly in error. His initial statement is that "Lead easily evaporates and enters the respiratory system, which may cause lead poisoning" is totally incorrect. Lead does not evaporate. Neither does copper, tin, steel, gold, or silver. It's just not the nature of metal—any metal—to evaporate. Later on he alludes to "type metal fumes," again with no credible source provided. There is no such thing as "type metal fumes." The fumes from smelting type metal come from dirt, paper, rubber bands, and other 'stuff' carelessly thrown in the pot with the type metal when it is heated at temperatures from 600 to 750 degrees Fahrenheit.

The following information is found on Wikipedia on the Internet regarding lead:

Melting point 600.61 K, 327.46 °C, 621.43 °F
Boiling point 2022 K, 1749 °C, 3180 °F

This information about lead also is included as part of an answer to a query posted on "Yahoo Answers," responding to the question, "At what temperature does soft lead vaporize?" It was posed by a person who feared he was being exposed to lead vapors. The facts quoted above were presented in a prejudicial fashion, evidenced by this comment, appended to the 'boiling point' information: "at its boiling point it starts to emit vapors, which is your concern." Then the Yahoo writer concludes, "Lead exposure is extremely dangerous and is known to cause mental damage and retardation. I am sorry to

hear you think you might be exposed to lead vapors. I suggest you become a whistle blower for OSHA.”

Interpretation Grossly in Error

The writer presented correct information but his interpretation was grossly in error. Most typesetting machinery operates at temperatures ranging from around 600 degrees Fahrenheit up to perhaps 800 degrees in the final stages of working metals out of dross. Those temperatures are over two thousand degrees cooler than the point where lead vaporizes. The vaporizing temperature never, ever is approached in common processing of type metal. The proper response would have been that *“It is extremely unlikely the inquirer has been exposed to lead vapors.”*

Returning to Loomis’ comments, he states that “many Linotype operators reported that they had lead poisoning.” Again, no substantiation.

In 1917 the U. S. Department of Labor Bureau of Labor Statistics published a volume titled *Hygiene of the Printing Trades*, which, as the title explains, was concerned with all aspects of hygiene in printing plants. Lead poisoning was mentioned often, but more time was devoted to ways of avoiding lead poisoning than to relaying info about incidents of lead poisoning. Incidents were detailed, but they were few, especially considering the large numbers of people employed in the trade at that time.

For example, one study reported “out of 3,002 linotypists 55 believed that they had contracted lead poisoning during work on machines, but Hahn, the author, after studying the question, came to the conclusion that the symptoms they complained of were caused by eye strain and possibly by lead dust and by gas fumes from the heating apparatus, but not by the fumes of lead.”

Even if all 55 persons did, in fact, have lead poisoning, that number represents less than two percent of all those interviewed. And keep in mind that all these respondents were handling Linotype slugs all day long, every day they worked.

Not Common in Printing Industry

An essential point here is that statistics quoted and facts revealed in that government report relate to people employed in the printing trade, working 48 to 54 hours a week, (page 94-95) and in their jobs they routinely handled large amounts of type

metal in the form of type, Linotype or Monotype composition, leads and slugs, stereotypes, etc. Even with that heavy exposure to lead-containing materials, this statement is made: *“No one claims that acute lead poisoning is common among printers.”* (page 82).

How Does One Get Lead Poisoning?

“Lead poisoning occurs when lead is ingested. Breathing in dust that contains lead can also cause it. You cannot smell or taste lead, and it’s not visible to the naked eye.”

This quotation also is from the Internet, from a website called ‘Healthline.’ It is accurate. The facts are affirmed by the aforementioned Bureau of Labor Statistics report. Paraphrased, ‘you can get lead poisoning only by eating the stuff,

if that’s something you choose to do.’ Merely handling type, leads and slugs, and linecaster slugs has virtually no potential for giving a person lead poisoning. That potential is completely mitigated by washing hands with warm soapy water before handling food or other material one might put in his/her mouth (such as cigarettes). *This is simple good personal hygiene and is advisable before eating even when one has not handled type.*



The simplest way to avoid contamination is washing hands with warm, soapy water.

Breathing dust is another matter. If the floor is dirty, use sawdust or some commercial product to keep the dust down when sweeping. Type should be stored in a dry environment. If storage has been in a damp area, type is likely to oxidize and that ‘lead oxide’ can reside in dirty typecases and on type itself. If that be the case, the dust should be vacuumed in an open area (outside) and the type wiped off with a rag dampened by oil, type wash, or a similar solvent. Avoid breathing the dust if you encounter it. Do note that this concern regards only type which has a powdery surface. Just because it is discolored or gray is of concern only if gray powder is present. Even type which has a powdery surface can be easily reclaimed. There is no compelling reason for its destruction.

It is commonly said that most instances of lead poisoning occurred when the affected person was a smoker, handling cigarettes with soiled hands, putting ‘dirty’ cigarettes in his/her mouth.

Where Poisoning Occurred Historically

Hysteria over lead poisoning first surfaced years ago when it was discovered that disadvantaged children were getting lead poisoning by eating chips of paint

pulled from the walls of their substandard housing. Apparently the paint had a somewhat 'sweet' taste which lured the children to chew on the paint. The second wave of panic occurred when it was revealed that lead oxides were in the fumes of leaded gasoline being burned in vehicles everywhere. Those two problems have been resolved by legislation. Leaded gasoline is a thing of the past, and virtually all paint being manufactured today is lead-free.

There was one other incidence of possible lead contamination. That was lead-based solder used in sweating joints of copper water piping in our homes.

Since the Safe Drinking Water Act Amendments of 1986 the use of lead-containing solders in potable water systems effectively has been banned nationwide. The major impact of the Act has been on solder containing 50% tin and 50% lead (50-50), until then the most widely used solder for drinking water systems. Lead-base solders have been replaced by tin-antimony and tin-silver solders. The main differences between these solders and 50-50 are that they are stronger and require somewhat higher working temperatures. Many plumbers in the United States have used them in copper plumbing systems for decades.

This quote is from the website of the Copper

Development Association Inc., under the title "Lead-free Solders for Drinking Water Plumbing Systems." The website explains that "in some drinking waters which are soft, acidic, and have low alkalinity [they] can pick up (leach out) . . . lead from any solder which is exposed to the water inside the plumbing system." The article suggests EPA limits on lead presence in drinking water are unnecessarily low and that there are other mitigating factors involved. Nevertheless, by EPA decree, lead has been eliminated from solder.

Minimal Dangers

Printing types which are properly stored in a dry, not-too-humid environment are harmless to persons handling them, and are the most permanent possible means of storing and retaining the historic typographic designs they represent. Historic types dating back over 100 years still can (and should) be utilized by careful, knowledgeable compositors in the twenty-first century. Everthing will be lost and nothing gained by the senseless destruction of these priceless relics of the past. If there were a potential hazard, it could be eliminated simply by washing one's hands in hot soapy water after handling the stuff. *There's absolutely no need for hysteria!*

Scientific Test of Type Metal Alloys Conducted

I retired from teaching at Arizona State University a few years ago and the Press I founded there continues under good hands. In retirement, I continue to do collaborative print projects with professors and students in various disciplines around campus as well and pursuing more testing of printing type alloys using the labs of the Solid State Science Center at ASU where I have access to Proton-Induced X-ray Emission (PIXE) equipment.

I gave a presentation at the APHA Conference at the Huntington Library in Pasadena in 2016 and I am attaching some of the tables of results from that talk. [See next page.] I also tested some type that Stephen Saxe sent to me (Washington Text from Keystone Type Foundry), as well as some samples from the Thorniley Collection at Pacific Lutheran University sent via Jessica Spring.

I am interested in obtaining samples of Central Type Foundry type from around 1880-1900 and Keystone type from around 1895-1915. This would be done to determine the percentages of copper and nickel, respectively, in their advertised "copper-alloy" and "nickel-alloy" types.

Perhaps you know of other type collectors that may have suitable types for testing; if so, contact me at the email address below. Your ideas on these issues of alloy percentages will be of great interest to me.

—John Risseeuw <JOHN.RISSEEUW@asu.edu>

From Rich: John, I find this a curiosity. I doubt the metal smelters of old had the ability to test metal content to this extreme. It's fascinating how much the proportions of lead and tin varied. Finally, I would assume that copper and iron content should be labeled as "trace" amounts, likely imperceptible in the old days and very unlikely to affect performance of the metal. (That copper "trace" in the one font listed which I cast was certainly unknown to me as the founder.) Fact is, I never test my metal because from a barrel of scrap Monotype I am certain many different values would be discerned. This would be carried to the new types cast simply because no one has a pot large enough to melt and blend all their metal at once (necessary to achieve a consistent metal analysis). I cannot imagine letters from a single font assaying differently. Will this change anything at the foundry? Probably not.

	Lead	Tin	Antimony	Copper	Iron	Nickel				
FROM OLDER FOUNDRIES										
19 pt. Ornamented No. 11, unknown, around 1857	72.00	7.30	20.70	0.41						
17 pt. Rimmed Roman, Farmer, Little & Co., after 1868	40.80	9.10	19.90	0.91						
21 pt. Doric Shaded, Farmer, Little & Co.	59.60	16.00	24.10	0.86						
27 pt. Egyptian Shaded, MacKellar Smiths & Jordan	70.70	5.70	23.60	0.27						
17 pt. Broadgauge Shaded, MS&J, between 1869-1886	65.90	7.90	26.2	0.31						
39.3 pt. unknown, Boston Type Foundry, no date	50.3	15.40	34.20	0.40						
38 pt. unknown, unknown foundry	70.20	5.80	23.80	0.31						
12 pt. "Grant", Bruce Type Foundry, before 1900	60.10	13.70	26.50	1.20						
24 pt. unknown bold cursive, Inland Type Foundry	53.50	17.90	28.60	1.20						
DIFFERENT SIZES OF SAME TYPE DESIGN										
36 pt. Hobo, ATF, no date	59.70	12.70	27.70	1.90						
10 pt. Hobo, ATF, no date	60.50	12.50	26.90	1.60						
42 pt. Nubian, ATF no date	57.60	14.70	27.70	1.90						
18 pt. Nubian, ATF no date	62.70	11.80	27.50	1.90						
24 pt. Jim Crow, ATF	59.60	15.00	30.80	1.30						
24 pt. Jim Crow, Typefounders of Phoenix before 1965	70.70	9.10	20.90	0.72						
108 pt. Slim Black, Deberny & Peignot after 1937	65.90	7.90	26.20	0.31						
48 pt. Slim Black, Deberny & Peignot after 1937	60.10	13.70	26.50	1.20						
63 pt. Trump Gravure, Weber, Stuttgart, after 1954	72.50	4.50	23.20	0.43						
39 pt. Trump Gravure, Weber, Stuttgart, after 1954	53.30	6.50	40.20	0.38						
60 pt. Chisel, Stephenson/Blake, 1939-56	63.70	11.50	24.10	0.73						
18 pt. Chisel Ext., Stephenson/Blake, 1939-56	56.30	14.20	29.50	0.74						
30 pt. Kabel Heavy, Klingspor no date	63.60	13.50	22.90	0.79						
14 pt. Kabel Heavy, Klingspor no date	64.30	12.90	22.80	0.53						
14 pt. Kabel unknown	56.80	14.90	28.30	1.11						
VARIOUS MONOTYPE CASTINGS										
36 pt. Hadriano Stonecut, Monotype	65.50	9.80	23.60	0.57						
24 pt. Hadriano Stonecut, Monotype	67.60	9.20	20.60	1.10						
18 pt. Bodoni Book, M&H Type 2012	61.71	11.41	26.36	0.51						
16/18 pt. Bembo, Harold Berliner, around 1983	60.95	14.59	24.37	0.09						
36 pt. Neuland Inline, Baltotype	60.52	11.98	26.92	0.58						
24 pt. Lariat, Typefounders of Phoenix around 1965	65.61	10.01	23.97	0.41						
24 pt., Dresden, Typefounders of Phoenix around 1965	74.15	9.29	15.93	0.60						
36 pt. Cooper Oldstyle, Hill & Dale Typefoundry about 1989	71.76	7.04	21.09	0.21						
14 pt. Caslon 371 unknown source	70.56	10.09	19.26	0.09						
18 pt. Garamont 248 unknown source	70.83	8.25	20.77	0.16						
10 pt. Szymie Light, M&H Type, 2003	69.21	8.85	21.54	0.39						
DIFFERENT CHARACTERS FROM SAME FONT 14 POINT WASHINGTON TEXT, KEYSTONE TYPEFOUNDRY										
comma	64.74	65.16	22.20	23.21	12.02	10.71	1.02	0.89	0.03	0.03
lowercase l	67.34	64.84	21.16	33.78	10.58	11.39	0.86	0.96	0.05	0.00
lowercase n	66.58	64.28	20.69	22.36	11.70	12.11	0.99	1.21	0.04	0.05
lowercase w	66.53	62.84	21.01	24.04	11.38	12.16	1.05	0.94	0.03	0.02
duplicate comma	64.62	62.16	22.40	24.51	12.06	12.26	0.86	1.05	0.05	0.02
duplicate lowercase l	68.37	64.48	19.40	22.77	11.09	11.38	1.11	1.33	0.04	0.06
MISCELLANEOUS FONTS FROM THORNLEY COLLECTION										
Connor Ornamented 28 point	62.15	63.20	24.21	23.99	13.02	12.53	0.38	0.25	0.24	0.02
Thorne Shaded 24 point from Stephenson Blake & Co.	50.70	43.74	28.83	36.88	15.91	18.87	1.30	0.23	0.30	0.28
Thorowgood Italic 36 point from Stephenson Blake & Co.	57.10	54.20	30.05	30.43	12.02	14.26	0.03	0.73	0.52	0.22
Round Shaded 48 point from Boston Typefoundry	50.24	51.98	30.33	28.64	18.01	18.03	0.95	0.59	0.47	0.75
Round Shade 18 point from Bruce Typefoundry	69.68	58.50	24.15	26.00	5.60	14.52	0.46	0.28	0.13	0.69
Bruce #1048 18 point from Bruce Typefoundry	71.63	75.13	22.88	23.85	4.78	5.19	0.60	0.46	0.12	0.03
Phidian 28 point from Johnson Typefoundry		67.44		20.23		11.56		0.66		0.12
Grimaldi 24 point from Central Typefoundry	58.23	54.86	25.78	22.14	15.27	16.35	1.15	1.06	0.60	0.77
Wide Lining Gothic 24 point	63.32	54.76	23.38	30.91	11.69	13.05	1.17	1.07	1.66	0.21
Wedge Gothic, 10 point	65.88	58.22	21.96	26.47	9.55	14.07	1.43	1.20	0.66	0.03
Crayonette 35 point from Keystone Typefoundry	55.79	65.76	28.39	22.23	14.68	10.91	0.70	0.95	0.44	0.08
Camelot 24 point from Keystone Typefoundry	43.04	43.68	33.99	22.25	22.46	22.26	0.45	0.71	0.01	0.05
Worcester 18 point	66.59	55.37	30.81	28.56	1.99	15.46	0.14	0.55	0.47	0.06
H. Hirano of Tsukiji 48 point	71.64	65.54	25.74	32.02	2.24	2.36	0.16	0.04	0.53	0.03
Shu-ei sha of Tokyo 48 point	59.50	59.82	37.68	37.89	1.98	1.99	0.14	0.13	0.20	0.17

Rows containing two figures represent two separate tests of same font or letter.

Another Trip Down A Blind Alley

Over the years I have been through many problems with my Monotype Composition Caster which has perplexed me and consumed a large amount of time in attempting to find solutions.

On more than one occasion I allowed myself to ponder the men who developed the machines, wondering how on earth they ever managed to get the system “off the ground” and running. On more than one occasion when I was not succeeding at getting problems solved the single thought which kept me fighting the was acknowledgment that yes, indeed, the machine does work. I just had to figure out how to do it. The early developers had no such assurance.

On Compatibility: American vs. English

In other articles I have asserted that there was a high compatibility level between the two manufacturers. I have said as much as 90 per cent of the parts were interchangeable. Well, I apologize. Previously I had little exposure to a true English machine. I was running an English-made machine but it was fitted up to U. S. Government Printing Office specifications which essentially required the English make it backward compatible to American machines which (of course) were in great dominance at the GPO. Thus, I thought the Pot, the Pump Body and all the operating arms were alike. I now know they are different in many ways. Even Nozzles are different in height and other specifications. I have an abundance

of American spare parts, but very few English, yet I needed to get away from the hybrid components found on my machine. I shall not detail all these differences. I merely allude to the fact that there are several. So do not rely on the idea that you can stick an American part on an English-made machine.

Type Sizing Gone Haywire

After I got English components from various sources including John Cornellise in Holland, I installed them all and cautiously began casting composition. I have long experience with the Welliver interface and I know it is virtually foolproof when it comes to justifying lines properly. I was perplexed by this fresh casting. A couple lines would be perfect as to length, then several would be half a pica short.

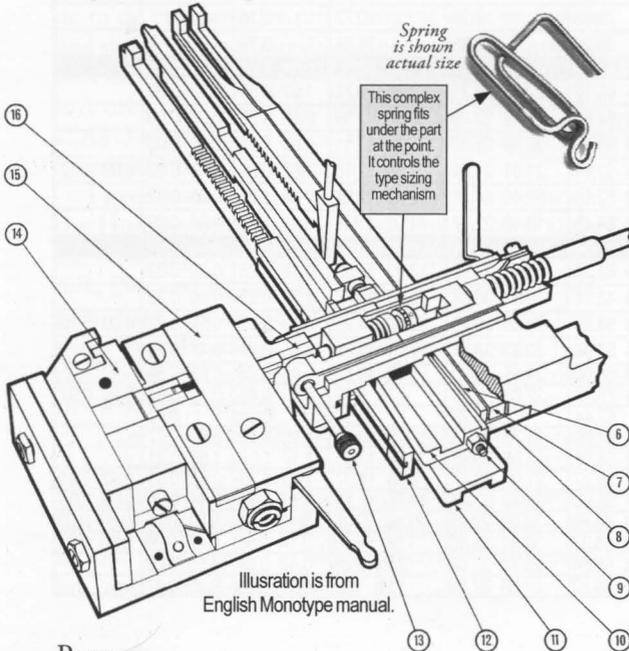
Initially I tried to compensate by clicking the Adjusting Screw with a Pin Wrench. I also fiddled with the Fine Adjustment. That helped for a line or two but then again things went askew.

At that point I concluded that that crazy-looking spring (shown at left) called the Adjusting Screw Lock Spring had become weak and was losing its setting as the machine operated. I have needed to access this little guy before so I knew I was in for a whole afternoon of tearing down the machine to get access to it. In the back of my mind I was mulling the fact that the “clicks” made on the Adjusting Screw seemed solid—not mushy as they might be if the Screw were clogged with oil and gunk. Nevertheless, I was convinced this had to be the problem.

Take Photos When You Tear Down

There are dozens of parts, pesky springs, and a definite sequence to disassembly and re-assembly. You might think you can remember what you have done but you won't. Take clear close-up shots with your cell phone. They'll pay excellent dividends. There are screws of different lengths and sizes, springs everywhere, and several parts which can go onto the machine turned different ways. The manuals don't show these details so take pictures every step during dis-assembly.

Many of the parts involved with type sizing are not even visible until you have removed three or four layers in disassembly. During re-assembly I had to back-track and remove stuff a second (or third) time after discovering a just-installed part was in the way of something I now was trying to put on the machine.



So finally, I had in my hand the assembly containing the Adjusting Screw Lock Spring. I took a wire brush and cleaned the teeth of the Adjusting Screw. There was a little crud evident, but not much. Close inspection revealed no visible wear. The Screw turned with proper drag and clicked properly. Having removed the Spring on another occasion, I opted to skip that step (putting it together really tests your patience). I did have a replacement but decided it wasn't needed. *The problem must be somewhere else.*

My next step was to reassemble the machine and look for problems along the way. That step was not easy because I kept jumping ahead and then needing to backtrack. Two or three parts perplexed me because they seemed to fit two different ways. I thought I had everything right. Finally the box I had thrown parts into was empty—no screws, springs, washers or anything else remained. So with much assurance, I installed the Mold and turned the caster by hand. Yikes! There was great looseness and “play” in the whole assembly which surely meant something was not installed properly. Wisely, I turned off the lights and went for a nap. The idea of tearing down again at that point was too forbidding.

Sleeping It Off Often Helps

Before tearing it apart again I studied the machine seeking to find what the looseness was all about. I reviewed manual drawings and my analysis said it was properly assembled. Then I mused: The Wedges ultimately control width. I had fiddled with them along the way, so I checked the Wedges. The Normal

Wedge was out of place. I had pulled it to the left to check something and had not returned it to its proper position. Re-seating the Wedge removed all the play. Things then worked just fine. A little time away from the machine gave me opportunity to mentally troubleshoot before again taking it apart.

So now I had the machine fully assembled except for the Bridge. I cycled by hand and realized that the Mold Blade Operating Rod was not putting consistent pressure on its stroke when pulling the Mold Blade to its proper width setting. *TaDa! This was the problem all along.* I went through the steps in adjusting the Rod (which is moved back-and-forth by Cam action) until it was exerting proper spring pressure when both opening and closing the Mold Blade itself. There is a section detailing this adjustment in Lanston's book *Casting Machine Adjustments*.

I Overlooked An Obvious and Simple Solution

I have made this statement before and I'll say it again. (Obviously I don't take my own advice.) Stop, look, listen, and *seek a simple solution* rather than jumping into what is likely to be time-consuming and difficult. I could have avoided the whole maneuver of disassembly had I sought a simple reason for faulty character widths instead of going after a truly complicated, rare, and difficult solution. These machines are amazingly resilient and don't go out of adjustment very often. When they do, the turn of a screw or tightening of a nut often is all that's wrong. As the sages implore: *Keep it simple, stupid.*

Mystery Solved: Who Wrote Early Lanston Books?

Most of us know there's no limit to the amount of information—trivial or otherwise—which can be garnered regarding type, typography, and type-founding. Big stuff like who invented the Linotype, and very small stuff like why Jerry Mullen left the bowl open on the lowercase 'o' in designing the Repro Script font. Perhaps you've 'heard everything,' but here's one you surely never pondered.

Dr. Chris Wasshuber has chased down a mystery and now concludes unequivocally that he knows who wrote much of the early literature published by the Lanston Monotype Machine Company. As often is the case, he was searching for something else when he came across the chance discovery that a fellow named Edward Gallaway authored several Monotype publications including *The Monotype System*, first published in 1912. and *The Mechanism of the Monotype Style D Keyboard*.

Wasshuber's deeply involved detective work began when he “set out to solve a more than 100 year old case of unknown authorship identity. Perhaps the most famous magic book, *The Expert at the Card Table*, printed at James McKinney & Co. in Chicago, and self-published in 1902, was written by an unknown cardshark. The book names S. W. Erdnase as its author, but no person by that name was ever found, suggesting it was a pseudonym. “In the process of chasing down this mystery, I also discovered the authorship of several books published by the Lanston Monotype Machine Company.”

His process was to establish a kind of linguistic fingerprint of various works and part of that work involved looking for uncommon words and phrases shared by texts. He also did serious comparison of photos involved in *The Monotype System*, suggesting they might even be Gallaway himself. [Go to page 27]

Specimen of the Smallest Metal Type Ever Made

Tim Hawley of Louisville, Kentucky, published a small booklet titled *Microscopique: An Original Leaf Front Quinti Horatii Flacci Opera Omnia*, printed in Paris using the smallest type ever cast. The handset piece was published in an edition twelve copies by Tim's *Contre Coup Press*. His article is herewith.

In granting permission to reproduce the story, Tim commented: "I sent a copy to Greg Walters, and in return he sent me an actual piece of the *microscopique* type that he had picked up in a visit to the Enschede Museum.

"When you see the actual type, it becomes just so much more astonishing that anyone was ever able to do anything with it, let alone cast it. It is no bigger than a broom straw in circumference. How anyone was able to set this stuff is beyond comprehension. Just keeping it still enough in the

stick long enough to get leads around it to hold it in place seems impossible. Of course my hands aren't what they used to be. (Did you know that as people age, the ridges of their fingerprints become steadily shallower? That is why it is so hard to pick stuff up to turn a page of a book, etc., when you're as old as us.)

"But even when I was young I don't think I'd have had the skill or the patience to handle this type. The type is indecipherable with the naked eye. Proofing the form would require a strong magnifying glass and even then, I don't know that I'd be able to do it. The whole thing is just amazing."

I also talked with Greg Walters about the type. He said the museum had a case of the stuff and someone managed to pi it. No one was willing even to think about sorting it out so they opted to give away sorts as souvenirs.

IT WAS CALLED "Non Plus Ultra," meaning "the uttermost point." And to this day, the two-and-one-half point type cut and cast by Henri Didot remains that very utter most point: the smallest type ever cast in metal, and likely to remain so barring some miracle of quixotic technology. Didot himself called the type "*microscopique*" after the name of the tiny type body size in the Didot measurement system. The *microscopique* size of two-and-one-half points Didot equates to a size of 2.6745 points in the American type measurement system, which in turn is equivalent to thirty-seven thousandths of an inch. It would take twenty-seven line of this *microscopique* type to equal one inch.

Henri Didot (1765-1852) was a member of the third generation of a family of booksellers, printers, publishers and typefounders. Henri was a cousin of Firmin Didot, whose father, Francois-Ambroise Didot, had established the system of type measurement still known as the Didot system. Firmin Didot is credited—along with Giambattista Bodoni—with creating the typeface style known as "modern."

Henri Didot was an engraver, typefounder and engine-maker. During 1816-1819 he invented a new typefounding machine that he called the "Polyamate" machine. This device cast multiple pieces of type at once—anywhere from 120 to 200 pieces. The machine utilized a mold that resembled a comb, with each of the tines of this mold casting a separate piece

of type. Due to its unique mechanism, the Polyamate could cast type smaller than could be cast with conventional technology.

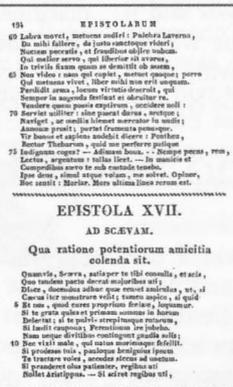
Consequently, Henri Didot proceeded to cut the punches for the *microscopique* type face, which could only be cast using the Polyamate caster.

The Didot typefoundry cast *microscopique* type for two miniature books—the *Maxime* of the Duc de Rochefoucauld in 1827 and *The Works of Horace* in 1828.

One can only imagine the challenge facing the compositor who had to set this tiny type by hand—nimbleness of fingers and grace of movement would have been at quite essential in lining up these flimsy wisps of lead.

In 1829 the *microscopique* punches and matrices were sold to the *Imprimerie et Fonderie Normales* in Brussels where the type was used to print a small broadside in 1830. The foundry then moved to The Hague, where it soon went into bankruptcy. The punches and mats were held in storage until 1850, at which time Joh. Enschede en Zonen in Haarlem purchased them at auction. The *microscopique* type was used sporadically over the following decades and even into the late twentieth century.

The leaf included here is from the second book utilizing the *microscopique* typeface—*The Works of Horace* published in Paris by A. Mesnier in 1828.



Practical Typesetting Demonstration for Shop Visitors

I had two very interested visitors in my Hill & Dale shop recently and they wanted me to help them print up a rather simple recipe card. I agreed to help them and they asked to stay with me and see what all was involved. Since there would be about 30 lines of type, I decided to fire up the Monotype Composition Caster to do the text, with the goal of making up the form for printing on my Heidelberg Windmill.

We approached the job from end to beginning, meaning we started by selecting paper, paper size, and then drawing out a tentative layout. They wanted a decorative border around the outer edges so I let them select a border from my vast collection.

I let one person assemble the 12-point units to form the frame while the other keyboarded all the text into my MacBook. Roughly one hour later they were caught up. Then I took over at the Mac and inserted all necessary control codes so her keyboarding could be utilized to drive my Comcat (created by Bill Welliver) computer interface to my Monotype Composition Caster.

Then the fun began. No squirts, no fins on the letters, etc., but it wasn't justifying correctly and the nozzle kept freezing up. I am sure no one else has ever had these problems.

*Grandma Mae's
Ginger Cookies*

1 cup sugar
1 cup Spry (obsolete brand) or Crisco
1 cup molasses
1 cup sour milk or sour cream
(I prefer sour cream)
2 eggs

Sift together the following:
5 to 6 cups flour
2 tsp. ginger
1 tsp. cinnamon
1 tsp. cloves
3 tsp. baking soda
1 tsp. salt

Cream together the Crisco, sugar, and eggs. Add molasses and sour cream alternately with sifted flour. Add more flour if needed to make a soft dough that you can roll easily. Cut out with cookie cutter. More flour makes stiffer dough. I use just enough flour so that cookie will be soft.

My mom, Mary Lebnick (Grandma Mae), made these cookies often. I remember them coming out of the oven, warm and soft, with the sprinkles of sugar glistening on top. The smell of ginger in the kitchen was a fond memory too. Mom lived to be 97 years old and as time went on, it became harder for her to bake these solo. One of the last things we did together was to bake a batch. That day is a memory that I will cherish forever. Perhaps this recipe will help you begin making your very own memories with those you love.
Merry Christmas
Stevie & Larry Bayles 2019

Original done in two colors.

I got so frustrated we broke for lunch and when we returned, I re-traced all my setup. While we were doing lunch the caster mold got nice and warm too. I needed a S-5 10-set wedge and the "10" was plainly visible down in the machine, but I pulled it out anyhow. Turns out that somehow it was a S-300 wedge 10 set and, of course, that was the problem with justification. (The S-300 wedge had been improperly stored in an S-5 compartment.) And the warmed-up mold functioned much better too, so we proceeded to cast the 30 lines with little additional hassle.

Then we moved to the Heidelberg and all went well there, with the presswork consuming less than half an hour. They departed with a very nicely done recipe card and the whole process took just about six hours.

The comment was made that they greatly appreciated the opportunity to witness what had to be done, and that the finished piece was much nicer than they ever would have expected it to be. Finally, they were far more appreciative of what really goes into a well-produced letterpress job. That in itself was sufficient "payment" for me? Perhaps it has opened the way for new letterpress converts? It's worth it!

Pat Reigh Has Brush with Human Anatomy

Pat Reigh of Sebastopol, California, commented on a problem which appeared on page 16 of the last *ATF Newsletter*. He comments, "looks like the 'fi' ligature was acting up." He was right. The air pin was not coming up. I was getting the wrong character wherever an 'fi' was supposed to appear.

Pat continued, "it reminds me of one of the first jobs I set on my just-acquired 15x15 gas-pot caster. It was a ca. 1925 model and had been through the mill, but I had a real, paying job in

8 pt. Cochin and needed to cast the type before the machine was checked out.

"It was for a directory of booksellers. Anyhow, the pins were sticking and whenever the lowercase 'k' was supposed to come up, it was substituted with a 'b.' So the first galley had line after line referring to "fine boobs, rare boobs, limited edition boobs, etc."

I suppose the only good thing is that Pat caught and fixed the problem before printing. I wish I had the same report.

Thompson Tech VIII Completed at Skyline Typefoundry

In mid-January 2019, three students from around the country made a pilgrimage to Skyline Type Foundry in Prescott, Arizona, for an intense week of typesetting boot camp.

Larry is a newcomer to typesetting but has made a very impressive entry, rescuing and restoring to operating condition a derelict Monotype-Thompson and a Giant Caster, and since has acquired four more Thompsons in storage a long time at Colonial Williamsburg. Al has a lengthy resume in the lofty strata of the business world and has been involved as an apprentice casterman at the Bixler Press & Letterfoundry in New York. Paul, well-known for his expertise on the iron hand press and his comprehensive book on that subject, is arranging to purchase a Monotype-Thompson caster from a fellow private typesetter in Minnesota. Here are their own reviews of Thompson Tech.

From Larry Johnson:

Prescott, Arizona, greeted me with a light snow my first night in. I am from Florida, and I rarely get to see snow so that was a fine treat. The weather was cold all week and that was just fine with me. We all stayed downtown near "Whiskey Row" where all the southwestern shops are, and I enjoyed the rich history of the area. We received the warmest welcome from Sky and Johanna Shipley. We were fed well all week and there was plenty of coffee.

Thompson Tech itself was filled with a good mix of both lecture and hands-on. I can describe the lectures as all of us huddled around looking at parts pulled from spare part bins while Sky showed us how they worked in detail. I think this was one of the most important parts of the class, because when we were shown an adjustment on the Thompson we all understood it better and could see how you could break something should you not do the adjustment correctly. It's one thing to see the cams on the machine, but quite another to see them laying on a table where you can understand exactly what they do. This played an important part later when discussing what is happening at certain "o'clock" positions of the hand-wheel and what cam is engaged. We learned



T. H. Groves (Skyline casterman); Larry Johnson (Florida); Paul Maravelas (Minnesota); Al Zavar (Texas); Sky Shipley (Skyline owner).

what to expect at every critical point. This is the level of detail that Thompson Tech was all about.

All the lectures dovetailed into the hands-on experience. Once we understood a concept, we were able to see it in action. Including cleaning and servicing, we all got lots of practice. Sky and Troy spent time with us both as a group and individually, showing us every detail of the casting process.

We also learned how to read matrix markings, and what info to collect on each mat while casting so you will know how to cast it the same the next time around. We learned hand-dressing type and how to pack the type once it was ready to go. We talked about burners, converting orifices, water flows, ventilation, mat holders, safety gear, modern oil and cleaning products—nothing was left out. It was an experience I will never forget. I recommend Thompson Tech for all interested in running a Thompson.

From Al Zavar:

It was a great opportunity to learn typesetting the right way on Thompson Type Casters at Skyline in beautiful Prescott. It is remarkable how Sky's aviation training has carried over to the approach he takes to typesetting: methodical and with great attention to Safety First. I would highly recommend this class to newbies and seasoned professionals as well. If I could, I would make it mandatory. The handouts were spot-on and the Thomson Tips nothing but solid gold.

The shop was very well organized for both production and training. Never did I feel the least bit pensive or daunted by the machines because of Sky and Troy's oversight. The hands-on was formidable and the squirt "drills" were a constant reminder of

the need for quick reaction and being constantly aware of process and procedures.

I would be remiss if I didn't mention the Southwestern hospitality and Johanna's daily lunch specials. Just frosting on the cake for a great week. I would not have changed a thing. Looking forward to utilizing my newfound skills and keeping in touch with Sky and our classmates. As a former educator, this is the type of program I would epitomize.

From Paul Maravelas:

I was fortunate to be a part of Thompson Tech VIII in January—an exceedingly well-organized week of training on the Thompson led by Sky Shipley. The Skyline foundry is located in a beautiful setting with three operational casters. An opportunity to study a spotless machine with an empty pot was provided via a fourth machine which has been rebuilt and is about to be put into operation.

The teaching skill of Sky and his employee, Troy Groves, made for efficient training. Troy has been casting full-time at the foundry for three years and provided expert practical guidance. Sky provided a perspective based on decades of rebuilding, typesetting, and printing. With two instructors guiding three students, we made rapid progress.

The training was solidly grounded in Sky's well-developed written procedures for maintenance and operation, which reflect his emphasis on regular preventive maintenance. The foundry casts daily, and vigorous maintenance prevents surprises and keeps production regular. We were taught checklists and written protocols, and simple expedients such as using flag clips to ensure that steps are not accidentally skipped. We were taught to leave tools on the nearby work surface to remind us of adjustments that would need to be completed later.

As a hoarder of old type metal, I was interested to learn how the foundry managed its metal supply. We cast using mostly old foundry type and Monotype, the mix was occasionally modified with additional tin. The foundry also uses new metal formulated to its own specifications to reduce casting problems.

The Thompson is not foolproof, so safety was emphasized both for the operator and the machine. We learned the many ways the machine could be damaged or the operator injured. At hand was the published Monotype-Thompson parts list and a large collection of spare parts organized in bins by part number, which aided our study of the design and nomenclature.

The hospitality of Sky and his wife Johanna added much to the experience. Johanna prepared

lunch every day, and the fellowship of sharing a meal together was magnificent. Part of the foundry's mission statement is "to preserve and perpetuate the ancient and esoteric craft of typefounding," and Thompson Tech training sessions are generously conducted as a contribution to the typesetting community and to people like me who would like to be operators and stewards of this superb machine.

Who Wrote

Continued from page 23

"If you are interested in my case you will need to read my ebook *The Hunt for Erdnase: and the path to Edward Gallaway*," (see website at end of this article) Wasshuber explains.

This article can not go into more details except to explain that Edward Gallaway worked as a printer at the time *Expert at the Card Table* was published. Gallaway was born in 1868 at Delphos, Ohio. At the age of 15 he became a printers devil at the local newspaper. By age 17 he was writing editorials. There were many steps in his career but eventually he ended up at a printing firm in Chicago, Bentley-Murray, where he learned the Monotype System as a keyboard operator. Wasshuber admits that he has not yet established Gallaway as an employee at Lanston Monotype, but perhaps the company sourced out the writing. In the keyboard book (mentioned earlier) it is stated that "we record our appreciation of the many suggestions and valuable criticisms we have received from Monotype operators." That might have included the author himself—Edward Gallaway. Photos in the Monotype book also were compared with photos from two books Gallaway is known to have written while he was an employee of R. R. Donnelley in Chicago.

Previously I (Rich Hopkins) had the impression that Carroll T. Harris, (the Harris of Mackenzie-Harris of San Francisco) who in his early years was a key employee of Lanston in Philadelphia, had written *The Monotype System*. However re-reading his 1967 interview "Conversations on Type and Printing," published by the University of California in 1976, I find Harris's involvement in the book was as proofreader, not author.

In sharing his information with me, Chris Wasshuber says he welcomes comments, critique or anything else related to Edward Gallaway and Lanston Monotype. Email <wasshuber@lybrary.com>.

Extremely Rare Lead & Rule Attachment Revived

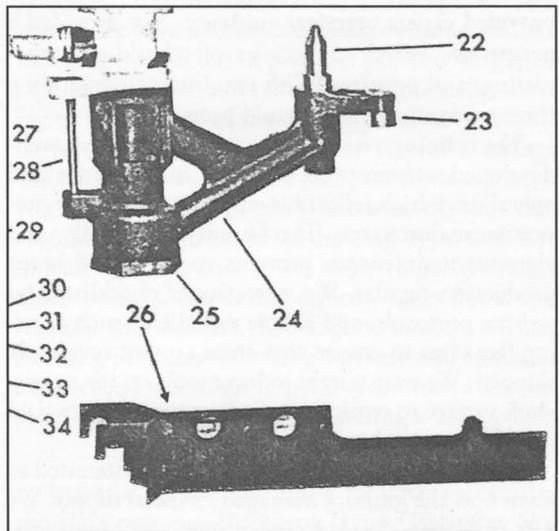
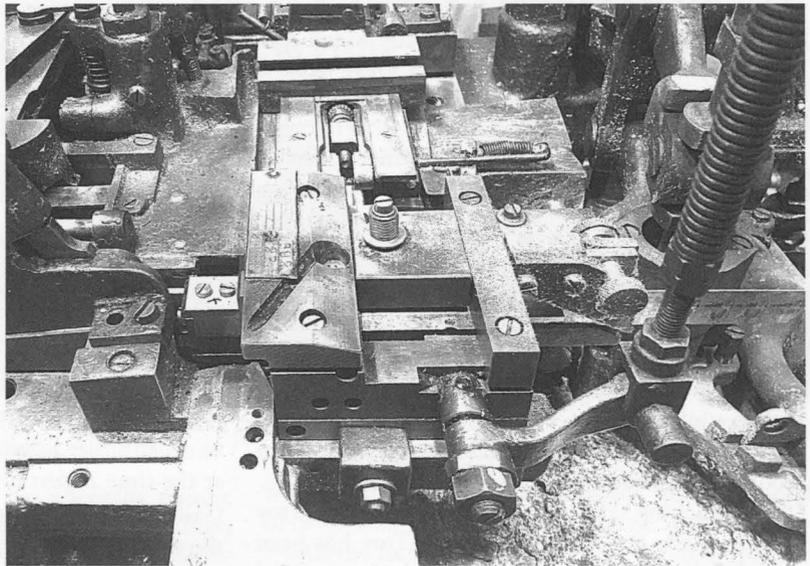
The Monotype Sorts Caster is officially called a “type and rule” machine, but until now, I never have heard of anyone using the machine for casting strip material. Ed Rayher of Northfield, Mass., reports that he not only has gathered most of the auxiliary parts necessary—he has installed them and cast 2 point and 6 point strip material on his Caster.

Over the years I have held several of these specialized molds and other components but discarded them, basing my decision on the assumption that the attachment really didn't work.

At this year's ATF Conference Ed will be doing a presentation on this procedure as a means of encouraging others to revive this method of making strip material. Of course you must have a Sorts Caster in order to use these implements.

Shown above is a picture of his Caster, fitted up with a Strip Material Mold and some of its auxiliary components. Ed has all parts necessary except a Shield which guides the material out of the Mold. The part is indicated on a page (seen at right) out of the parts manual as item “26.” If you should have this part in your invaluable “bucket of goodies,” please contact Ed and offer it to him.

The Lead and Rule attachment introduced by Lanston very early in the last century. It is my assumption that once Lanston introduced the stand-alone Material Maker, the company ceased promoting this more limited device.



A New Kid on the Block—and He's Really Getting Into It!

Tom Colson from The Sea Ranch, Calif., has been exploring many aspects of type making lately, including CMC matrix, engraving and electroforming mats. Now he's moving in other directions.

He writes (March 5, 2020):

“Lately I have been working with Pat Reagh at his foundry. He's about 90 minutes back towards civilization from where I live. We just finished installing Bill Welliver's interface on two of Pat's three Composition Casters.

“I am still completely unqualified to run Pat's Comp machines, Supercaster, or the Elrod on my own, but I do feel like I'm learning. I spent two weeks last summer at the Wells College Summer Intensive.

“The first week was with Scott Moore learning all about making wood type. The second week was with the Bixlers casting metal type on their Monotype equipment. The time with the Bixlers was a great way to get my feet wet before I started working with (pestering?) Pat.”

Art of Composition Matrix Making Is Rediscovered

BY RUSSELL MARET
New York City

Some time ago I visited Phil Abel and Nick Gill at Hand & Eye Letterpress in London. After lunch, Nick and I got to talking about the feasibility of making a new typeface for Monotype composition casting. Nick had been studying the finer points of typefounding at the Type Archive in south London and he had been unable to locate one specific piece of information that would make a new composition face possible: he could not find detailed instructions for the creation of patterns for the pantographic punchcutting machine used by Monotype.

Unlike direct matrix engraving processes in which a letter's fit and alignment can be determined after engraving, the Monotype process requires each letter's fit and alignment to be figured out in advance. Those calculations are manifest in the pattern used to engrave punches, and they are followed through to the punch, the matrix, and the final piece of type. If the letterform is not in the right place on the pattern it will never be in the right place on the piece of type. The trick is in figuring out the specific relationship between the pattern and the resulting piece of type, and the literature on this relationship was lacking.

Intrigued, I lightheartedly suggested that we try to figure it out—Why not?—and Nick and I agreed that he would discuss it with Duncan Avery at the Type Archive. A few months later I was back in London for a meeting at the Type Archive. By that time Nick had assembled an impressive, multi-generational group of collaborators to assess the feasibility of the project and, hopefully, to figure out the missing pattern information. The group included Duncan Avery, who worked for Monotype from 1945 until 1992, at which point he initiated the Type Museum; Graham Sheppard, whose tenure at Monotype spanned 1952 to 1995 and included work in the Type Drawing and Type Development Groups; Parminder Kumar Rajput, who began at Monotype in 1965 and is one of two individuals qualified to operate every ma-

chine used in the production of matrices; Doug Ellis, who began as an apprentice at Monotype in 1955 before eventually becoming foreman of the Monotype Toolroom in 1991; Thomas Mayo, a printer who has been making a name for himself through his innovative use of laser cutting, the technology he will use to cut the patterns for our type; and finally Nick himself, a printer and typefounder who is the only person other than Kumar Rajput qualified to cut punches and make matrices for Monotype Composition Casters.

After a brief tour of the Type Archive's facility, we found ourselves in front of the punchcutting machine where Nick and I were hoping to begin the long, arduous process of discovering the missing pattern measurements. Kumar pointed out the various

parts and functions of the punchcutter for my benefit and then Nick posed the million dollar question: "How do we figure out the relationship between the pattern and the piece of type?"

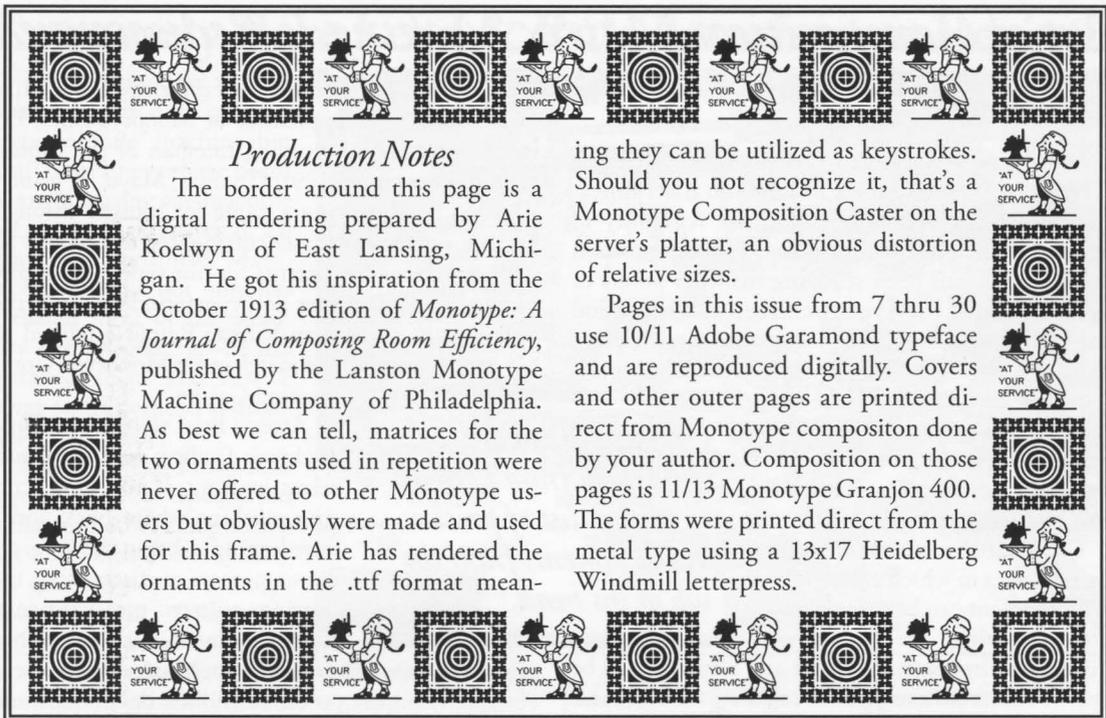
It is difficult in retrospect to capture the comedy of the ensuing exchange. Imagine our surprise when, rather than getting a long bibliography of hints and sources, Graham Sheppard chimed in from behind us with a list of precise measurements from the top of his head. Sometimes all you need to do is ask the right person the right question.

In an instant the focal point of the day changed from figuring out how to make a single piece of type to endeavoring to make a complete font which would be called HUNGRY DUTCH. Since then there have been many fits and starts.

Discussing the abstract idea of type manufacture over lunch is quite different from actually manufacturing type, and my learning curve has been long and steep. But six months after our meeting at the Type Archive, Duncan Avery sent me a packet containing newly made type, matrix, punch, and pattern, all derived from my drawing of a letter H. The thrill of opening that packet is one that has no equivalent in my experience—in my hand was evidence of some-

Graham Sheppard chimed in from behind us with a list of precise measurements from the top of his head.

The four men involved in the manufacture of HUNGRY DUTCH matrices—Duncan, Graham, Kumar, and Doug Ellis—are the brain trust of the Monotype Corporation.



Production Notes

The border around this page is a digital rendering prepared by Arie Koelwyn of East Lansing, Michigan. He got his inspiration from the October 1913 edition of *Monotype: A Journal of Composing Room Efficiency*, published by the Lanston Monotype Machine Company of Philadelphia. As best we can tell, matrices for the two ornaments used in repetition were never offered to other Monotype users but obviously were made and used for this frame. Arie has rendered the ornaments in the .tff format mean-

ing they can be utilized as keystrokes. Should you not recognize it, that's a Monotype Composition Caster on the server's platter, an obvious distortion of relative sizes.

Pages in this issue from 7 thru 30 use 10/11 Adobe Garamond typeface and are reproduced digitally. Covers and other outer pages are printed direct from Monotype composition done by your author. Composition on those pages is 11/13 Monotype Granjon 400. The forms were printed direct from the metal type using a 13x17 Heidelberg Windmill letterpress.

Rediscovered thing I assumed was utterly impossible.
From page 29

The thought that we might be able to manufacture new composition typefaces is almost too exciting to bear. but the excitement is tempered by the enormity of the undertaking. It is not, in all honesty, a project likely to be completed.

An important first step of this project was that we follow Monotype's in-house procedures as closely as possible.

Those procedures necessitate the manufacture of what are called the thirteen "medial trial letters" before moving on to the full face. From these letters—a, C, e, f, g, H, h, i, n, O, o, p, t—the head of drawings, Graham Sheppard, and the head of punch cutting, Kumar Rajput, are able to glean all necessary information for production of the remaining letters in the font.

The first step was to make these thirteen "medial trial letters" and then proceed from there. I sought supporters to sponsor the making of a letter or two (or more) because financing the project is significant. The project was conceived as a *typographic adventure*, and, in the spirit of all real adventures, it has been undertaken without a clear idea of what might result.

We are at a critical point in the history of this technology.

Completion is not always the most rewarding outcome of creative work. We are at a critical point in the history of this technology. The four men involved in the manufacture of the HUNGRY DUTCH matrices—Duncan, Graham, Kumar, and Doug—are the brain trust of the Monotype Corporation. The only

way to fully access the knowledge they have acquired is by going through the process of manufacture with them. The only way we can preserve that

knowledge is by documenting everything.

I propose to make this a communal endeavor. I will work with the Type Archive to go as far as we can, and to collect as much information as we can. I will print ephemera as we progress and, eventually, a book about the process.

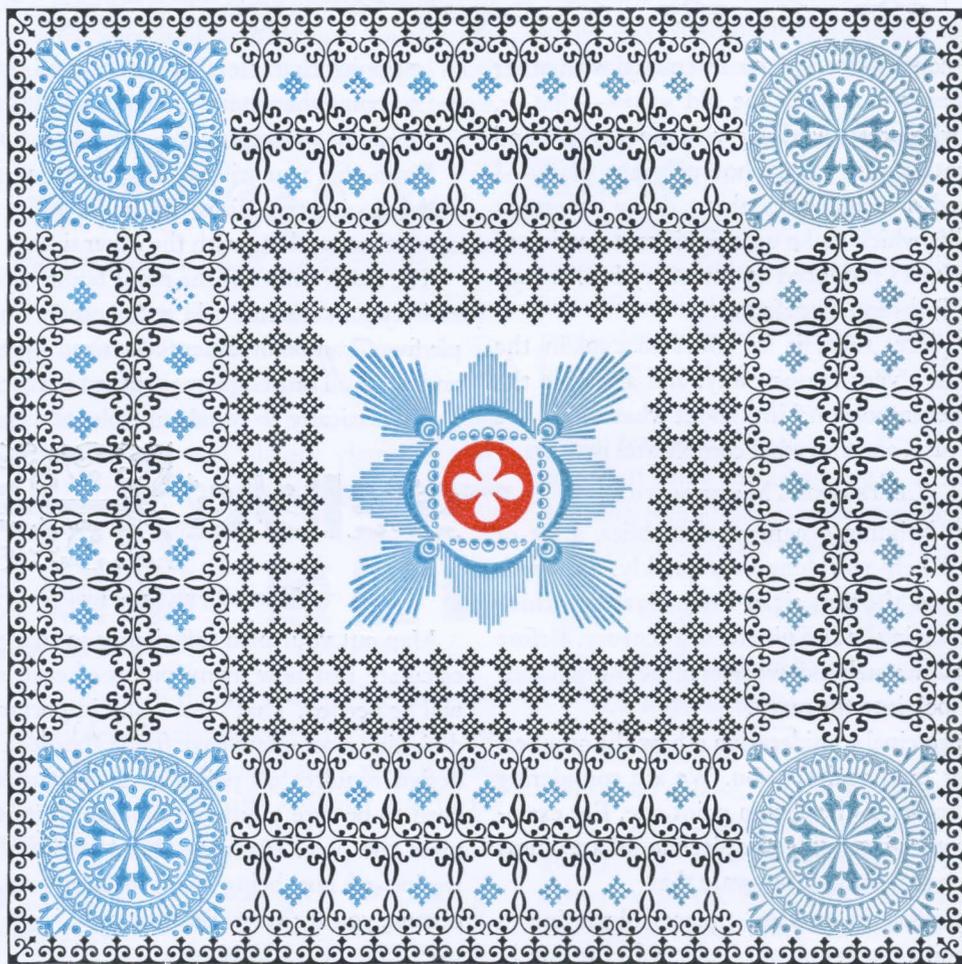
In seeking a follow-up to this report, Russell emailed this message:

"Perfect timing. I just received the final matrices for the face and a sample setting is being cast for the upcoming issue of *Matrix*. I'm also publishing a small book about the making of the face to be released later in the year."

If you seek additional information or wish to become involved financially, please contact Russell at <russellmaret@me.com>.

TYPOGRAPHY

Extends Well Beyond the Alphabet.



*Fleurons and Dingbats
Enhance Creativity, Spawning
Exquisite Floral Trellises
and Charming Mosaics ...
Exhibiting a Language All Their Own.*

On Using Ornaments

Occasionally when I have interacted with other letterpress printers of the old school—that is, people who prefer working with metal types and ornaments rather than photopolymer plates—I am asked *how* one goes about doing ornament assemblies which make up a significant portion of the ephemera produced by me at my Hill & Dale Private Press and Typefoundry.

This piece, then, is an effort to explain the process in a very cursory way, and also give the newcomer important hints about what makes the process easy, and also what complicates matters.

LETTERPRESS MATHEMATICS

When building ornament assemblies, a bit of math will help you along very quickly. The math is based on the American Point System, which came along in the late nineteenth century. Before then ornamental builds were far more complicated. So let's look into the math.

The principal consideration is how the numbers work for (and against) you. We are considering square bodies of the chosen point size. For example, if you're intending the piece to fill a 23 picas line (an odd number), be aware that

6-point characters	46	pieces fill the line
12-point characters	23	pieces fill the line
14-point characters	19.71	pieces fill the line
18-point characters	15.33	pieces fill the line
24-point characters	11.50	pieces fill the line
30-point characters	9.20	pieces fill the line
36-point characters	7.66	pieces fill the line

Change the measure to 24 picas and you won't have to work with so many fractional bodies.

6-point characters	48	pieces fill the line
12-point characters	24	pieces fill the line
14-point characters	20.57	pieces fill the line
18-point characters	16	pieces fill the line

24-point characters	12	pieces fill the line
30-point characters	9.66	pieces fill the line
36-point characters	8	pieces fill the line

From this you will see that working with 14 and 30-point type sizes will be far more complicated than working with the other sizes.

The math values of the point bodies affect how easily your structure will go together. For example five Granjon ornaments are sized 24x24, 24x6, and 24x21. The design was planned artistically and mathematically to equal multiples of 24 points.



YOUR TYPE SUPPLY

Map out your plan sufficiently so that you can calculate just how many pieces of each element will be needed. That's especially important when designing a complete page frame (border). If your design requires 96 pieces of an ornament, you need to be sure you have enough pieces to complete the plan. Planning ahead avoids the frustration of not being able to complete a plan because you are a few pieces short.

DESIGN CONSIDERATIONS

Design is the most complex and personal of all considerations. Be assured that every 'rule' will have exceptions. I personally approach each new project with much browsing of specimen books and ornament combinations done by other individuals. Over the years I have built a file of specimens, and there are several books on the subject too. Chief among them is the one done by Richard Hoffman titled *When A Printer Plays*. He shows ornaments, gives their history, and displays them in fascinating combinations.

You see the word 'history' creeping in. Knowing where and when an ornament originated helps you zero in on how it is likely to be used. Lots of ornaments—generally rather plain and heavy in appearance—came out of the 1920s in America. There's a solid chance elements of that nature won't work very well with designs which originated with Janson or Caslon. A dainty floral motif won't likely work with a heavy, inlined rectangle. Here are a few more pointers:



Delicate and light Bold and dominating

1. Try to match the overall 'weight' of each unit you are thinking about using. If one piece is heavy, it is unlikely that it will work well with another 'dainty' element. A bold solid line running between two very dainty elements most likely will present an overpowering contrast and that should be avoided.



Dainty and detailed Bold and simple

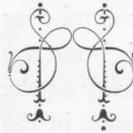
2. Try to match the 'style' of each element. If one is very delicate and flowery, it is unlikely that a solid bullet or square would work with it. Seek other elements which have a similar feel to the flowery piece.



Matched pairs

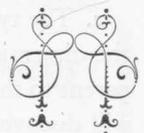
3. Focus on 'direction' in the ornament. Many elements are designed to be paired with a rotated version of the same element. Likewise, if the ornament is used in a row and you seek to do a box, then search for a matching corner element. Study each individual ornament. If it has strokes within which lead off the edge, look for other pieces which can 'receive' that stroke when they are placed together.

4. Consider other parts of the printed piece. If you are using a dainty script type as a the most



Awful

*Poor match of type
to ornament*



important typographic element, it would be bad to use 'Art Nouveau' elements which employ bold, directional strokes and heavy contrast within.



Image in two sizes. Do they blend?

5. Watch all elements when combining differing element sizes. Some 48 point pieces are extremely light and delicate and might easily work with 6-point dainty flowers around them. There are potential problems if you are using the same element in two different sizes. For example, Jenson ornaments are made in sizes from 18 to 36 point but using the 18 against a 36 likely would not work well simply because strokes in the larger size would overpower those in the smaller size.



Un-trapping white space using a Notcher

6. Be aware of white space within the ornaments you choose. If a square ornament has one corner open, assembling four pieces rotated together will create trapped white space in the center, or on the four outside corners. Of course this gives opportunity to fill the void with another ornament and this is a great option to have. (You can do this by running a second color, or using a Type Notcher, mentioned later.)

ADVANTAGES TO THE TYPECASTER

Being able to make your own type is a paramount advantage for a person seeking to work with ornaments. There are several reasons:

1. A typesetter doesn't have to confront issues of not having enough ornaments to do the job. The founder can cast as many as will be needed plus a few extras to cover accidents.

2. The typefounder has complete control over the dimensions of his ornaments. This is not apparent to the beginner, but rather quickly he/she will discover that there is great variation in the actual size of type and spacing material found in cases. Why? The individual who made the type was just running a machine, trying to get to the end of the day. He wasn't focused on keeping tight control over set widths. Let's say he casts a 36-point ornament a quarter point too narrow. That means a line of 36 point will come up a full half pica short in a 72-pica line. That is a problem!

The typefounder also has complete control over alignment. Let's say it's a symmetrical ornament and you don't pay attention to how the nick goes. Nick up on one piece, down on another, turned right on the third. Proofing will reveal them bouncing around rather than aligning. A prudent typefounder will prevent this. Such potential variation being recognized, it is good practice to keep nicks in the same direction whenever using repetitive ornaments. It minimizes alignment problems.

3. The typefounder can cast on special bodies and can cast spacing as required. For example, perhaps your design says to step a 6 point width element every 9 points (two are planned to align with a single 18-point element). The typefounder can cast the character to a 9 points width, which is a huge advantage over using brass and coppers to add 1½ points on each side of every element. The same advantages comes when spacing material is needed. If the plan calls for spacing sized 18 by 24 points, spacing can be cast precisely to that dimension. This makes for a much cleaner form, a more precise form—and one which can be assembled far more easily (and it's more likely to 'lift').

IF FORCED TO MIX ALREADY-CAST TYPE

If you must mix type made at different times or by different foundries, here are a few hints on how to determine the differences.

American Type Founders had a major advantage regarding ornament castings, for most often their castings were done on the same machine

even though done many years apart. ATF kept master samples which were carefully matched whenever new castings were undertaken. ATF used just one machine for casting a particular matrix. Monotype, on the other hand, had hundreds of machines out there casting the same ornament, with the work being done by persons of varying skill levels. Many copies of the same matrix were made. The mats were very precise—the images rarely differed. But both body dimensions and alignment were *vulnerable to operator skill and attention*.

1. Compare the nicks. If nicks are larger or smaller, then the work came from two different molds. Segregate your type based on the mold used to cast it.

2. Look at the groove. When cast on a Thompson caster the groove is plowed into the foot of the character. If the position and/or the depth of the groove differs, then your type is from different machines or different casting sessions. Segregate the type accordingly.

3. If there is no groove, then the type was cast on a Supercaster or an American Sorts Caster. Study the mold imprints on the foot of the type. These reflect positioning of the mold's crossblock when the type was cast. If these marking vary, work was done using different molds, or in different sessions with the same mold. If the crossblock is aligned slightly differently (this is entirely possible) then the imprint on the feet of your type will differ, opening the chance that set width and character alignment will differ. If so, separate type accordingly.

WHAT TO DO IF FORCED TO MIX

Sort your type getting like types segregated. Don't mix them within a line. If you must use different castings, then use one lot on the top and bottom of the box, and the second lot on the two sides. Always keep the nicks within a line facing the same way. Misalignment becomes apparent when types are turned in different directions. It is very likely there will be variances if elements have been cast on different machines.

TWO MOST HELPFUL TOOLS

Having a Rouse Type Notcher and a Hammond Glider Saw (or equivalent) will mean you are totally equipped to fiddle with ornaments. Sometimes these tools are absolutely necessary. If you put two facing 24-point pieces together, they will measure 48 points. By putting both in the saw you can slice off 6 points, assembling face-to-face you'll end up with a 36-point width—an odd size but one which will blend perfectly with the standard sized characters—just what your design called for. The notcher comes in handy when you



Sawing creates 'matching' alternate character widths

want to put a 36 point symmetrical piece in the middle of four 36-point corners. Simply notch out the open 18x18 corner of each of the four pieces. When assembled there will be a 36-point hole in the middle where you can drop in a symmetrical piece.

THERE ARE NO LIMITS, SO GET STARTED

The complexity of some ornament assemblies I have studied is overwhelming—especially so for the beginner. On the other hand, I just recently discovered an assembly done by a legendary private pressman, Carroll Coleman of Iowa City, Iowa. He utilized four pieces of two ornaments and made a marvelous four-pointed star in the process. I have had both these ornament in my collection for years. But I never imagined they would go together in that way. Get yourself started by grabbing a few select ornaments. Start fiddling with them. You'll be astonished at the neat designs you can develop. Congratulations! You are on your way to becoming an absolute ornament nut. *There is no cure.*



Stupid Thompson Tricks

from Skyline Type Foundry

15. Fail to manually cycle the Caster following adjustments.
14. Attempt to cast with Pump Piston removed or disconnected.
13. Walk away from an operating caster.
12. Leave Pin Wrench in a Bolt Head.
11. Attempt to cast more than one type with Receiving Shoe removed.
10. Attempt to cast with fouled or improperly adjusted Stripper Spring.
9. Fail to move Handwheel handle to 6 o'clock before readjusting set width.
8. Misalign Vertical Mold Blade clearance.
7. Operate caster with Pump Stop faulty or missing.
6. Cycle Handwheel in reverse past the 7 o'clock position.
5. Attempt to cast with Cam Lever Fork not properly engaged in Mat Holder.
4. Cycle Caster when cold without disconnecting Piston.
3. Attempt to cast with no Mat in Carrier.
2. Attempt to cast with Nozzle Plate removed.
1. Attempt to cast with Mat Carrier removed.

A Remarkable Opportunity

FREE—MONOTYPE KEYBOARDS. I have about 25 keyboards in various states of repair. Most appear complete. I do not know whether they are American or British. They have been in dry, albeit dusty, storage for over 20 years. You must arrange proper packing and shipping or pick up in person. I must move them out in about a month. Call David Kuntze, Woodside Press, 63 Flushing Avenue, Bldg. 3, Suite 1008, Brooklyn, New York 11205. Phone (718) 222-4560.

On Stepping Aside

As I sat in the local Taco Bell restaurant in February, munching on my 'Gordita' I caught sight of a poster extolling the benefits of coming to work for Taco Bell. Right in the middle of the poster was a line advising readers how to apply. In the midst of graphic clutter and clumsy typography was a line, composed in a digital hybrid which closely resembled Rudolf Koch's 'Jessen.' When introduced around 1950, Jessen was, itself, a blending certain features of black letter with early Romans. It was designed specifically for a Bible project to present a readable letter which still retained a hint of Gutenberg's black letter.

I was with my daughter Laurie and she certainly would have 'understood' what was going through my head. That line of type was so absolutely inappropriate for taco *anything*. I remained quiet. I was having another 'déjà vu' moment recalling how, on a flight back from Atlanta in the early 1970s, my traveling companion—a fellow professor at West Virginia University—blurted out that he hated traveling with me because all I did was observe the posters, handbills, menus, and everything else and do a critique on what was right or wrong with the type choices.

I have no idea why *type* turned me on in junior high school. Other fellows were discovering girls. I was studying the California Job Case. Other guys were dreaming of romantic interludes. I was dreaming of rummaging through old printing shops pulling out messy stuff and hauling it home to my not-at-all-impressed mother.

This is my round-about way of announcing my decision to make this edition of the *ATF Newsletter* the last one I will produce. It's been an adventure which has extended over more than 35 years. It has been a joy to produce. But the weight of 'looking back' is now bearing heavily on me. Scanning the *Index Sky Shipley* did on the *Newsletter* a few years ago listed obituaries of so many individuals I have known and worked with.

Now, as I pass into the realm of 'above 80,' I realize this edition, for example, should be carrying several new obits of fellow typenuts who have gone on to rummage in that great printing shop in the sky. I can't bring myself to research and report such heart-wrenching reports anymore.

Most recently I was working with Steve Saxe on a book which likely will be reviewed elsewhere in this edition. My email box had several messages from Steve and we were approaching completion. Though I knew he was nearing 90, he was so alert and vibrant. For me it was a wonderful opportunity to work with such a legend. Then he was gone. No more emails. No more letters or printed samples. Happily, Steve's part of the book was already finished and now the rest of the book is finished too, so it finally will be published.

That won't be the case for my buddy David Norton. I see his records and type collection have gone to the International Printing Museum. He had been working on his book on *Nineteenth Century American Types* a long time. He made a presentation at the first ATF Conference in 1978. At that time Mac McGrew was working on his book and they compared notes. It was an exciting time. Mac got his project finished and the world is better able to handle American type because of it. Dave's work likely never will be completed.

Then I think of Roland Hoover. He didn't cast type, but he knew type and did a wonderful job of working with type. A gentleman and a scholar, he was the Yale University Printer, among other things. But for me it was his warm handshake and his occasional letters of encouragement which are remembered. I admired everything he did and getting 'fan mail' from him was absolute ecstasy.

Another wonderful memory was having the opportunity to visit with Harry McIntosh in his workshop and 'den' at Edinburgh, Scotland, in 2017. Harry had attended a couple of our ATF Conferences. He presented his interface at the

1998 Conference in Sunnyvale and was known to us as the pioneer in interfacing modern computers with the Monotype Composition Caster. For several years he had successfully run a commercial typesetting business called 'Speedspools.' When forced to close after fifty years, he consolidated the best equipment in his garage and continued to perfect all aspects of his interface. His wife, Dianna, happily went along with his efforts.

It was impressive enough to sit with him, bumping knees in his tiny den on the second floor of their home, among at least five operational computer setups, books, and notes, and far too many discarded components. At the time he was adapting his interface to produce Hebrew composition. (Hebrew reads right to left, by the way.) "Why are you doing this?" I asked. He replied that someday there would come a need and he wanted to be ready. In his wonderful mind he had figured out how it could be done. When I was there he actually produced several lines showing his successful effort. Of course, that took us into his garage which was a masterpiece of squeezing way too much stuff into way too little space. He was adept at stepping around obstacles, pulling things from their cubbyholes for explanations, and all the while operating his 16x17 Composition Caster as if it were just another toy to be played with. Harry was a master 'work in progress' and it was a delight to be with him. Sadly, a stroke has silenced him—at least for the moment.

I came into printing toward the end of the letterpress era. That era featured hundreds and hundreds of individuals who had devoted their entire lives to the mastery of the equipment they operated. They thought their personal knowledge and skill guaranteed them employment for a lifetime. Some made the transition to newer methods. Others went into hibernation, never to awaken. And a few lingered on to help people like myself learn the old methods and undertake the never-ending quest to save both the equipment and the technology.

The transition was tumultuous and went down with many casualties. For several years I corre-

sponded with a Mono operator from Brooklyn who spent over thirty years running the *same* Composition Caster. His employer had closed shop. This sad fellow clung to the thought that selling the complete series of brand-new Univers composition matrices (which he had salvaged from the plant) would help underwrite his retirement. He knew how much money had been spent acquiring the mats, but they never got used. In earlier times, perhaps he could have recouped the investment. But I don't think he ever got an offer, much less selling them. Sad.

There was a forklift operator at the U.S. Government Printing Office. He admired the Caster he was moving for me. "I used to run one here."

There was Ed Harwelik, who spent his lifetime mastering all aspects of typesetting on the Barths and pivots at American Type Founders. For a few years after ATF's closing, he ventured to Howell, N. J., to help Theo Rehak in his effort to save ATF at his Dale Guild, but Ed's last paying job was running the elevator at ATF after the auction. Eons of mastery and knowledge wasted for a dismal ending.

Some of us have clung to visions of saving hot metal for a new generation. Others were more pragmatic. Pat Taylor, who hosted two of our Conferences and was very deeply involved in saving many shops in the greater New York area. Sadly, Pat lived to see *all* his 'preservation projects' unravel. At one of his last ATF Conferences he asked me, "How is it going?" I mentioned concern for the future. He replied that there comes a time when you need to pull the plug. "It was a great ride but now you have to get off the train." At that time I didn't take his advice and have produced eleven issues of this *Newsletter* since I got his advice.

Now, rather than get off the train Pat Taylor was talking about, I will stroll to the baggage car where my equipment is stashed. I'll continue fiddling with type at a more relaxed pace. Someone else needs to become engineer if this 'train' is to continue. This engineer needs a vacation.

—Rich Hopkins

Once Thought Lost, Historic Mats Are Found



BY SKY SHIPLEY
Skyline Typefoundry

The late Dan X. Solo was one of the individuals who acquired matrices at the auction of American Type Founders in 1993. According to the list compiled by Greg Walters dated February 14, 2014, Dan bought eleven lots, notably including all the Troyer ornaments. He acquired only one complete font: 30 point Engravers Old English.

The collection was split randomly. Some went to the late Monroe Postman, an amateur typecaster, and some went to printer/historian Paul Ritscher. I acquired both, only to learn what they had was haphazard and incomplete. Then I met Mark Knudsen, another amateur typecaster, who said that he had "the ATF Troyer mats" from Monroe, plus a Thompson mat holder for them that Monroe had made. Mark graciously turned all this over to Skyline, with the happy result that the Troyer Ornaments, Zodions, and Christmas elements were reunited and complete. We have successfully cast many of them.

Still, much of what Dan had rescued remained unaccounted for, and presumed lost. Then from out of the blue, I was contacted this month by Jeph Solo, Dan's son. He said that he was cleaning out his garage and found some of his dad's stuff including ATF matrices! Though not a printer or typecaster, Jeph felt these artifacts should be preserved by someone that valued them. Thus a 30-pound box soon arrived at Skyline.

They were a varied assortment including lesser things like fraternal emblems and railroad timetable logotypes, but many were people-figures. I pulled out my 1906 ATF Catalog and was able to identify them all. Most mats are larger than we can cast at Skyline, but there are possibilities—

they may be cast once again. The entire typefounding and printing history community says "Thank You Jeph!"

Seen above are ten "Shoppers" printed direct from an old ATF casting found in Rich's shop. Mats for them, plus Laurel Wreaths, Pick-Ups, Klondikers, Rounders, Lady Golfers, Silhouettes, and several other items found in the 1906 ATF Catalog now reside at Skyline Type Foundry.

The Economist Magazine *Notes Rediscovery of Letterpress*

From friend George Hamilton, Vienna, Austria:

"A publication as erudite as *The Economist* has noted that we hot metal printers not only exist but are enjoying a modest rediscovery! Look for it (four pages (22-25, February 2019), including a fair amount on Susan Shaw and the rescue of what was left of Monotype in the U.K. and even mention of Harold Kyle and the Boxcar Press in Syracuse! And such friends as Duncan Avery!"

George advises that a letter to the editor, *The Economist*, Adelphi Building, 1-11 John Adam Street, London WC2N 6HT, England might be in order from those who are contributing to the renaissance of typesetting and letterpress in the U.S. (the Brits are more than a bit behind the U.S. in reviving typesetting).

George continues: "When I met and talked with the Caslon brothers earlier this year at a well-attended trade show in London, they were indeed positive over sales of letterpress accessories and those of the reconditioned Adana 8x5 hand presses which they offer. That *The Economist* should take notice of what's going on, hurrah! Do pass the word along; the article can do more for letterpress than you might imagine!"