First in a Proposed Series on
Letterpress Machinery and Tools

The Rouse Type Mortiser

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January, 1999

INTRODUCTION

Herewith is my first contribution to the APA bundle to initiate what I hope will become a project continued by other members who are encouraged to prepare similar pieces. My intention is that we develop a little manual of booklets detailing various letterpress implements and how they are supposed to be used.

The rationale is very simple. As we move further away from the "good old days" of letterpress printing, newcomers are going to be hard-pressed to know precisely how things were done "back then," and indeed they might not even be aware that there were solutions for many of the problems they will encounter.

I have been collecting letterpress implements since the mid 1950's and have had the privilege of actually working in production shops—two newspaper plants and one very brief stint in a small Monotype book shop. I also worked closely with an ad typography shop at one time and that's where I first was introduced to the Rouse Type Mortiser. This device is "scarce as hen's teeth," for it rarely was used in plants other than high-end typography shops. I got mine from Dayton (Ohio) Typographic Services many years ago and the purpose of this little report is to demonstrate some of the things a person can do when he/she is lucky enough to have a Type Mortiser.

I hasten to note that a lot of what is done with the Mortiser can also be done with a good printer's saw, but it's not nearly as easy, nor as accurate.

Rich Hopkins, APA 226
January, 1999

Type in a form—an example of how mortised type can make the optical fitting of hot metal characters more pleasing. Notice the **T** *and the* **F** *and how they're cut into each other, thanks to a Rouse Type Mortiser.*

THE ROUSE TYPE MORTISER

The Rouse Type Mortiser was designed to cut away space on any of the four corners of a piece of type. By using the Mortiser on two pieces of type, one is able to cut away dead space and mortise together two letters to form a more pleasing letter combination. Mortised combinations are well-known in the typographic world—letters such as *Ty, Wa, Yo*, or even *LT* require mortising to end up appearing correctly. In fact, such "mortise combinations" now are built into most computer software programs.

Example of mortised type. In this instance, the **W**, **A**, *and* **T** *all were mortised to get closer letter fits.*

American Type Founders manufactured mortised letters in some fonts to facilitate this process. And a good Monotype caster operator can cast "short set" letters to facilitate the process. But if you do not have the luxury of already-mortised letters, having a type Mortiser is a lifesaver.

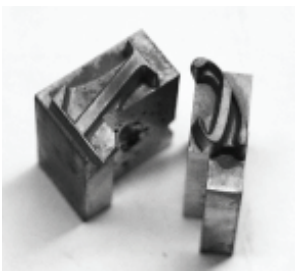
When I first viewed the Mortiser, I assumed cutting out portions of a letter somehow was "automatic." It's not. It's a careful trial-and-error process that takes some time. And it's not easy to cut precisely matching "notches" on the two successive letters. The Mortiser does, however, have knobs on both the vertical and horizontal axes which "click" in points and half points. This helps the operator work his way toward a "perfect notch" through successive cuttings.

I have used my Mortiser successfully on type as small as 8 points, but working with type that small does present some problems. There's a small flange at the bottom of the type clamping which is intended to help you properly position the type in the Mortiser. But with small type or a very thin letter, this flange gets in the way of the cutter. Some caution needs to be exercised, therefore, to avoid such contact and subsequent dulling of the cutter.

Luckily, the Mortiser blade is nothing more than a standard milling tool which still is easily acquired from a machine tool company. I recently replaced my cutter tool with a HS (high-speed) Side Milling Tool (3 x ½ x 1") from MSC. It cost $33.33. It was when I replaced my tool that I discovered the Mortiser was intended to have a ½-inch cutting blade, although mine had been fitted with a 3/8-inch blade since it was acquired from Dayton Typo.

Even with a brand-new blade, it's still a good idea to have a very tiny file on hand to smooth down edges for type metal does not cut cleanly. You'll always have a tiny burr at the cutting edge which must be filed smooth.

The cutter blade (side view)



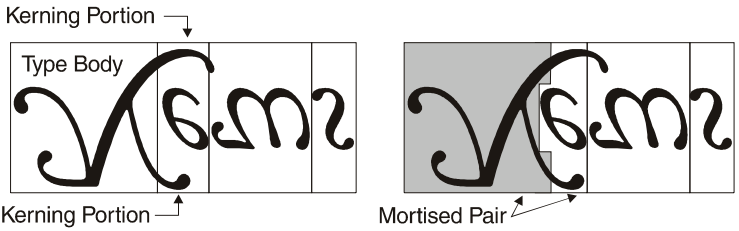
Piece of type is clampled in the mortiser and the spinning blade is cutting away the corner. Center shows two notched letters, and right shows two fit snugly together. Kerning wasn't enough. mortising assured a better fit.

OTHER USES

The Mortiser's ability to hold and cut very small pieces is a facility which can be put into play in other ways. For example, perhaps a letter or ornament is cast on a body which is just a tiny bit too wide? A printer's saw could be used, but even the best saw clamping device isn't much good for holding anything smaller than 12 points. You can use the Mortiser for very fine trimming of the *whole* letter. The trick: Cut away half the letter's excess width (let's say 14 points of a 24-point body) on the first cut. Then *invert* the letter and clamp it again for a second cut to shave the remaining portion of the uncut letter to its new, narrower set.

I used this capability recently to trim off—completely—the shoulder above a 12-point lower case e. Then I shaved away another letter which also had an acute accent I wanted to place above the e. The resulting **é** was a combination of two shaved pieces of type.

As mentioned above, the Mortiser's blade is half an inch wide. Thus, it can be used to cut into the center area of a piece of type if the opening is half an inch or wider. That capability enables one to trim away the inner area of a cap C, for example. Shown herewith are a few samples of how center notching is done. But keep in mind, this is possible only if the center notch is half an inch or more.



The sample at left shows of how the cap swash N kerns over the next letter(s). This kern is extremely fragile, yet the character still isn't narrow enough to allow the next letter to come close for good visual spacing. The kern cannot be made greater because of limitations on the mold in the casting machine. To overcome the problem, the Mortiser is used to notch out a center portion of the body of the **N** *and then two corners of the following* **e**. *As indicated in the text, this inner notch must be at least half an inch wide, which is the width of the cutting blade itself.*

OPERATING INSTRUCTIONS FROM ROUSE

I have in hand a Xerox copy of an original document prepared by H. B. Rouse & Company, 2214 Ward Street, Chicago, which apparently was issued with each new machine. There is no date on the document and I believe it was forwarded to me by Dave Churchman several years ago. I suppose he sent it to me to let me know the formal *name* for the device. Prior to receiving the sheet, I had called it a "Type Notcher." *Oh, well.*

The document does a great job of making use of the machine *seem complicated.* It throws in mathematics and everything else to muddy the issue, and the piece is filled with common-sense warnings like "turn off the motor before making adjustments." The rule-of-thumb I can offer is simply to start your cutting with settings far *away* from the "live" area of the type letter. You always can cut more away, but it's absolutely impossible to put anything back once it's cut away.

The piece does advise "mortises wider than six points should be taken in two or more cuts." That's probably good advice and will assure greater accuracy, though I have been successful at cutting well over 24 points of space in a single cut. The danger here, I am sure, is that the larger cutting burden would tend to *rip the letter loose* from the clamp and you certainly don't want that to happen.

Another solid piece of advice is "never raise the table until you are sure that the type clamp will not strike the cutter." Rouse has a "block out" area (see diagram on page 8) which prevents this to a very large degree, but simple precautions are still in order. In my discussion earlier, I mentioned the bottom flange sometimes being hit by the cutter blade when making cuts on extremely small or narrow-set letters. I avoid blade dulling as much as possible on mortises which might have this problem by proceeding with the downward motion of the cutter lever very slowly, stopping immediately if my ears tell me I'm hitting steel instead of lead.

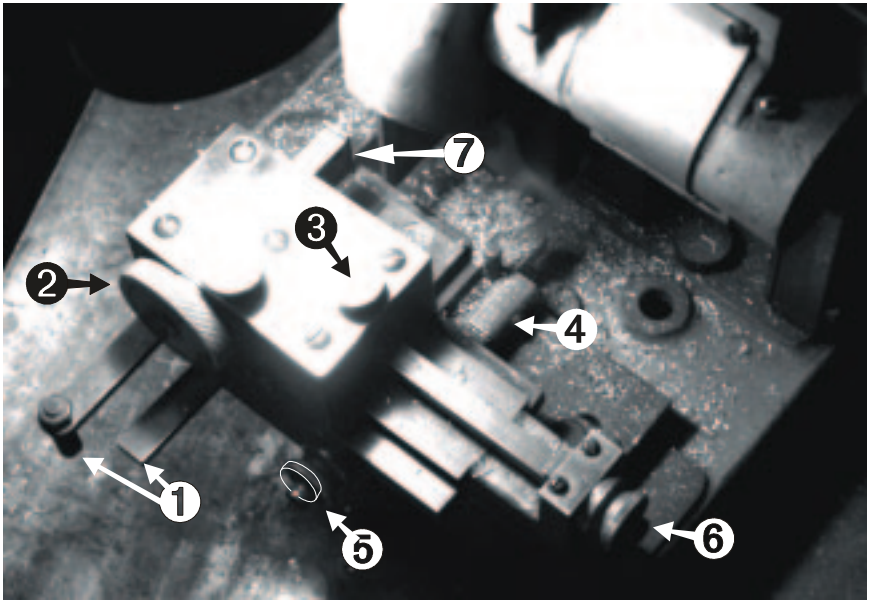
Finally, it is quite easy to get the letter into the mortiser crooked. That makes for a cut not parallel to the sides of the type body and that's quite unacceptable. Much care must be taken to assure the clamp area is clear of metal chips and that the letter is securely placed from top to bottom against the clamping arm.

ADJUSTMENTS FOR RE-GROUND CUTTERS

"When cutters are changed or re-ground, Depth Stop No. 12 and Safety Stop No. 14 should be adjusted to harmonize with the different diameter cutter." That's how instructions begin in the single-paged Operating Instruction already alluded to.

Right-to-left movement of the type character is infinitely variable and depends completely on a knurled lock nut which must be changed nearly every time a new mortise is made, especially if you're varying from 72 point letters down to 12 point letters. So calibration here is impossible. What they're referring to is the in-out motion of the type character which, I suppose, could be "zeroed" as suggested above. I have never done this, however, because I do all my mortising based totally on visual inspection. I make a cut, inspect the letter, and then make a deeper cut if it's deemed necessary. I do use the scales and "clicks" to tell myself I'm moving my cut by a point or half a point, but I've never zeroed the machine so that I would know I was making precisely an 8-point cut-a-way before I start. *On second thinking, maybe I ought to calibrate the thing!*

GUIDE TO CONTROLS



❶ The square block and follower arm are critically placed to prevent moving the steel clamp ❼ (which holds the type) directly into the path of the cutter blade. This is a great help, but still caution must be taken to avoid such a mishap.

❷ Large knurled knob locks the clamp ❼ tight against the type letter to hold it in place while it is being mortised.

❸ This locking knob controls the "rough" placement of the letter on the right-left grid. It is often necessary to move 5 or 6 picas and such moves require a fast "rough" adjustment.

❹ This is a scale calibrated in picas and half picas with a pointer which indicates how deep the cut will be on the up-down axis. Positioning of the pointer (and thus, the locking clamp) is controlled by the knurled knob ❺.

❺ Knurled knob wich clicks off points as the letter is moved on the up-down axis.

❻ Knurled knob which clicks off points as the letter is moved on the right-left axis. This is the fine adjustment, ❸ is the rough adjustment.

❼ The locking clamp which holds the type while it's being mortised. The letteris locked either on the right or left side of this clamp, depending on where the mortise is to be made.