

Identifying Thompson Matrix Carriers and Matrix Holders

Groups 26TC and 27TC (Matrix Carriers)

Groups 31TC, 32TC, 33TC, 34TC, 35TC, 36TC, 87TC & 88TC (Matrix Holders)

Also several Matrix Carriers and Holders identified with pre-Monotype part numbers.

The subject of Matrix Carriers and Matrix Holders to be one of the more confusing aspects of the Thompson. There are several reasons for this:

- The Thompson can be adapted to cast from many kinds of matrices.
- The Carriers and Holders changed significantly over time.
- Various Holders and Carriers must be used together in particular ways.
- Each Carrier requires a specific type of set adjusting mechanism on the caster.
- None of this was thoroughly documented at any one time.
- Terminology (especially the use of "holder") may have changed over time.
- At least three different part numbering schemes were in use, an the Thompson and Lanston documentation sometimes (through failure to do complete updates) used both styles simultaneously.
- The documentation often identifies the equipment in terms of what it can do, not what it is.
- The documentation assumes that the reader already understands what was then available and, often, what was previously available.

This is an attempt to sort it all out.

Because not all readers will need (or wish) to read this document linearly, it is necessary in many instances to repeat information. (This is particularly true with regard to the configuration of certain Matrix Carriers to accept particular Matrix Holders.) Also, in order actually to identify many things fully it is often necessary to employ a level of detail which can obscure the overall picture.

In these situations, this repetitive or excessively detailed material will be set off in a text box such as this one. It is usually safe to skip these boxed sections.

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1. Matrix Carrier vs. Matrix Holder

Although they are used together, and although they are most commonly seen assembled as a single entity, the Matrix Carrier and Matrix Holder are two distinct groups. Here's a photograph of a Matrix Carrier (of the modern adjustable sidewall style identified by Group Symbol Xa27TC) assembled together with a Matrix Holder for Monotype Display and Thompson Matrices (X32TC):

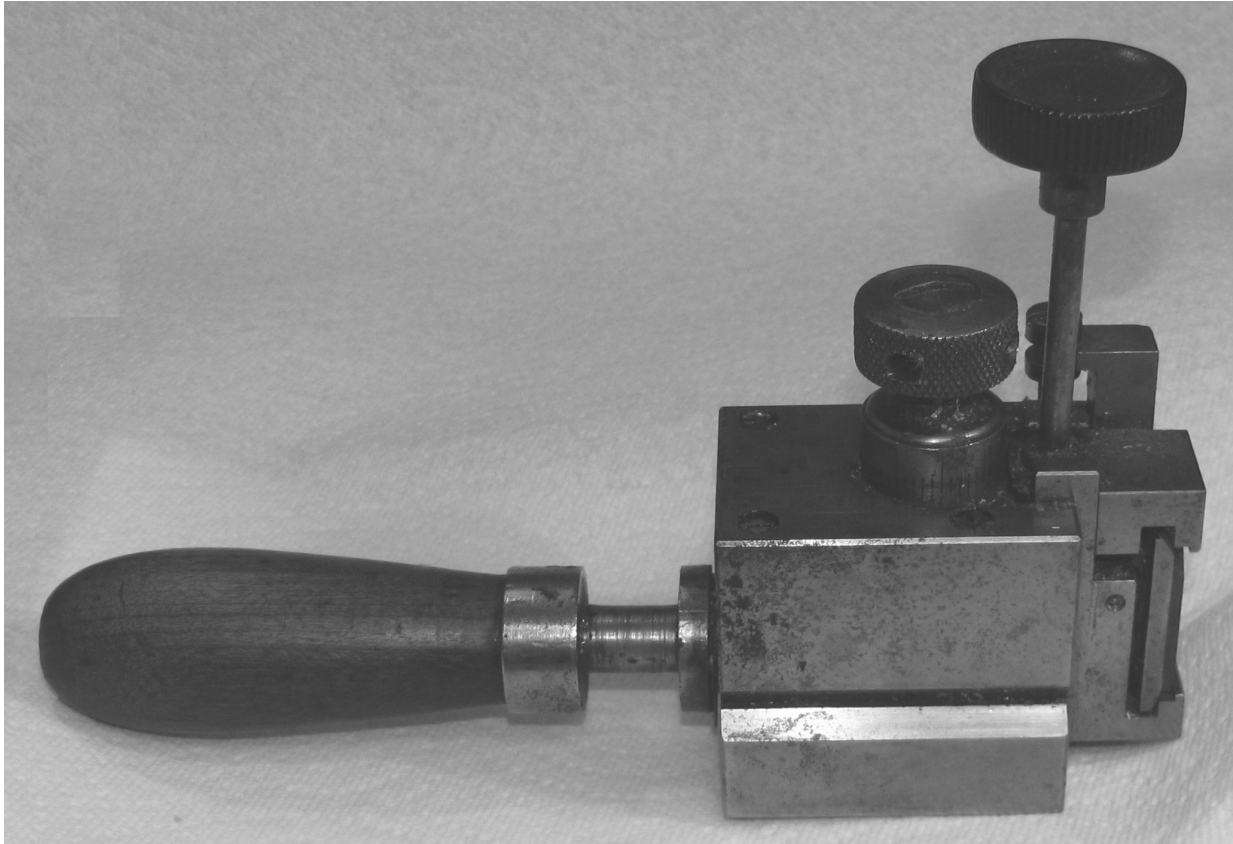


Fig. 1:

The Matrix Carrier is the assembly with the handle and large rectangular block which slides in and out on the casting machine. There were at least four (possibly six or more) different styles of Matrix Carriers made during the manufacturing lifetime of the Thompson. Here's a textbook example of how not to take a photograph of the same Matrix Carrier by itself (with no Matrix Holder):

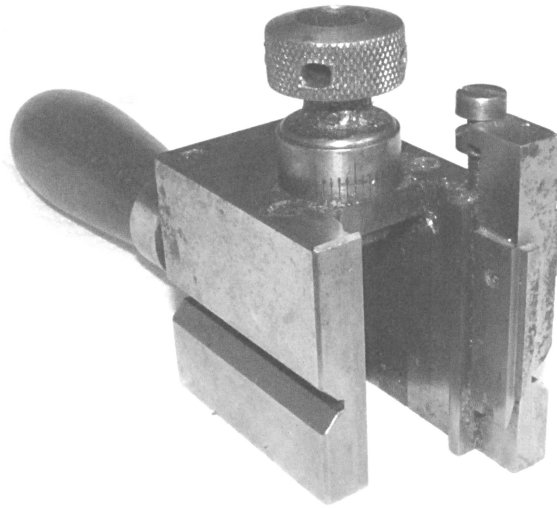


Fig. 2:

The Matrix Carrier, despite its name, does not carry a matrix directly. Instead, it carries a Matrix Holder. Here is the same Matrix Holder (Xa32TC) shown above, removed from the Matrix Carrier. Its Clamping Screw Knurled Head (a32TC8) has also, as it happens, been removed in this photograph.

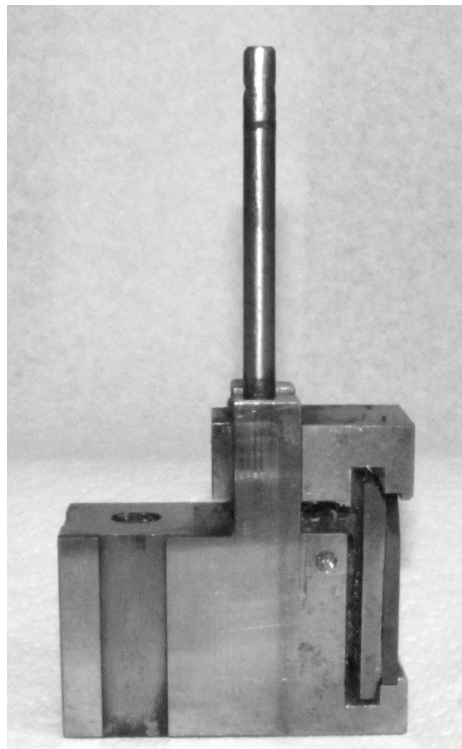


Fig. 3:

2. Matrix Carrier Styles

2.1 Introduction

There are at least four (possibly six) distinguishable Matrix Carrier designs:

- Part No. 660
- Part No. A-8
- Part No. A-11-B (probably = style 26TC)
- Group Symbol 26TC (probably = A-11-B)
- Special Adjustable Side Wall Matrix Carrier (probably = style 27TC)
- Group Symbol 27TC (probably = "Special Adjustable Side Wall Matrix Carrier")

The 27TC group was adapted for use with particular Matrix Holders by the addition of particular parts, and the resultant Carrier was designated with its own group symbol. Thus, when used with appropriate Matrix Holders, it becomes:

- Xa27TC for Thompson and Monotype display matrices
- Xa27TC20 for Giant Caster matrices
- Xa27TC61 for Linotype, Intertype, and Foundry matrices
- Xa27TC24 for American Cellular, English Cellular, English Display, and Ludlow

It is my impression that most Matrix Carriers in use are of the 27TC variety. Still, I believe that it is useful to understand the earlier styles for a number of reasons:

- It makes the (Monotype)Thompson manuals more intelligible (as they make assumptions about styles of carrier in common use at the time)
- There are still at least three Thompsons in existence (in 2012) which use the earlier "Set Adjusting Blocks" [M-608] method of adjusting set width (rather than the later Micrometer-Set-Adjusting Device, 41TC). Certain styles of Matrix Carrier are required for the Set Adjusting Block mechanism (styles 660 and A-8, I believe) while other styles are required for the Micrometer Set Adjusting Device (styles A-11-B (= ? 26TC) and 27TC)
- If there survive any Thompsons using the early one-piece Matrix-Carrier Lever, the use of any Matrix Carrier in them other than Style 660 would almost certainly damage the machine.
- It's always good to know the history of one's machines.

This discussion will necessarily also involve a reasonably long digression into the operation of the earlier Set Adjusting Block mechanism.

2.2 Matrix Carrier Style 660

2.2.1 Illustration and Uses/Limitations

If this is not the original style of Thompson Matrix Carrier, it is at least the earliest style recorded in the surviving documentation and it matches well the style described in John Thompson's patents for the machine. It is shown in an illustration below, taken from the 1916 Thompson manual, *Instructions to Operators of the Thompson Typecaster*. (Chicago: Thompson Type Machine Company, 1916).¹ In this source, it is identified as part number 660. (This 1916 booklet employs purely numeric part numbers, unlike later Thompson and Lanston publications which employed two different schemes of alphanumeric part numbers. A Parts List is mentioned on p. 38 of the 1916 manual, but no such list is known to have survived from this period.)

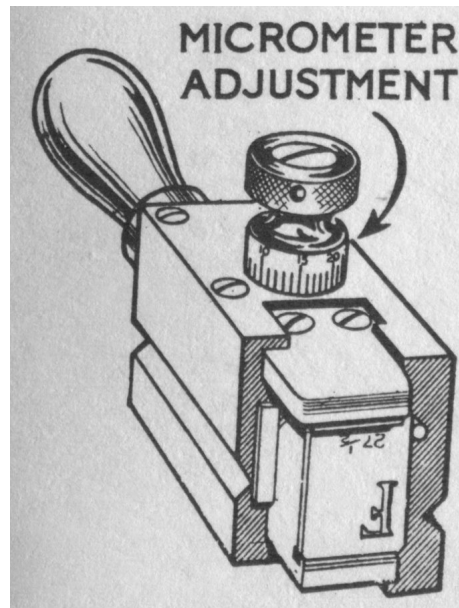


Fig. 4: Matrix Carrier, Style 660, with Matrix Holder for Thompson-style Matrix

One feature of this style of Matrix Carrier is apparent from this illustration: it has a solid, or fixed, left side wall (left as viewed by the operator holding the handle; this is to the right in the illustration above). The Matrix Carrier cannot, therefore, be used to accomplish any lateral adjustment of the matrix. This style of Matrix Carrier was designed to carry any of four styles of Matrix Holder: for wide Thompson matrices, for narrow Thompson matrices, for Compositype matrices (see p. 39 of the 1916 manual), and for Linotype matrices.

2.2.2 Has Spring in the Carrier

This style of Matrix Carrier has two other features important to its use which are not apparent from the general illustration above.

¹ This booklet was reprinted by Dave Churchman of Sterling Type Foundry. At the time of writing (2012), the entire remaining stock of this reprint has been acquired by Skyline Type Foundry LLC and copies are available for purchase from Skyline. <http://www.skylinetype.com/>

First, it incorporates a spring in the Matrix Carrier itself to push the Carrier (and thus the matrix) firmly against the mold. Later practice omitted this spring in the Matrix Carrier but put an equivalent spring within a two-part Matrix-Carrier Lever.² Here is a cross-section of the style 660 Matrix Carrier, from the 1916 manual. The spring within the Matrix Carrier is clearly visible, while a one-piece Matrix-Carrier Lever can probably be distinguished.

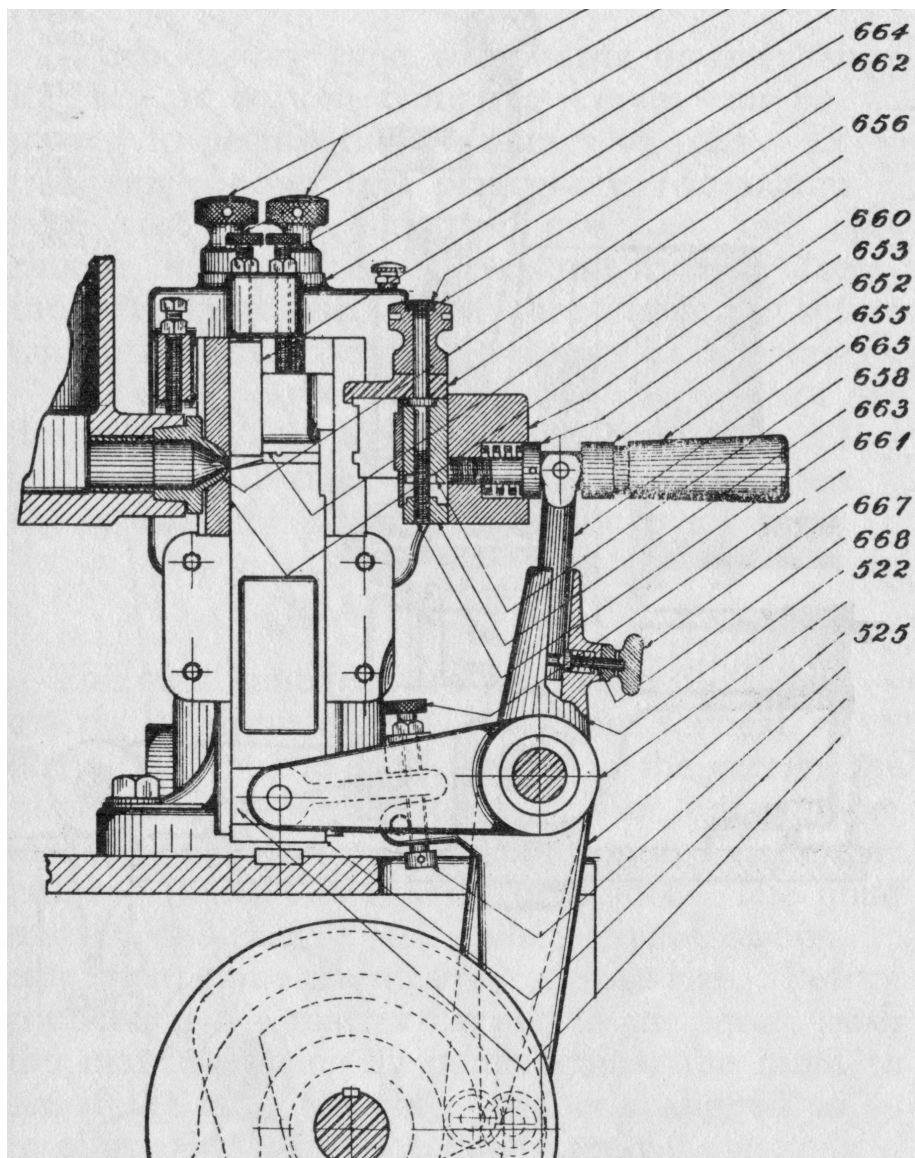


Fig. 5:

In this illustration, the parts called out are:

- 664 - "nut ... on top of knurled stud" (p. 37)

² The 1926 Thompson manual, which shows the later Matrix Carriers in styled identified by part numbers A-8, A-11-B, and "Special Adjustable Side Wall" illustrates a two-part lever, composed of Matrix Carrier Lever (G-924) and Matrix Carrier Lever (G-925).

- 662 - "knurled stud nut" (p. 17") or "knurled nut" (p. 28) or "knurled stud" (p. 37)
- 565 - not identified [top plate?]
- 660 - Matrix Carrier
- 653 - not identified [collar on handle, for Fork]
- 652 - not identified [collar on handle, for Fork]
- 655 - not identified [handle]
- 665 - Fork
- 658 - not identified
- 663 - not identified
- 661 - not identified
- 667 - Spring Knob
- 668 - not identified [spring?]
- 522 - Matrix Carrier Lever
- 525 - Vertical Mold Blade Cam Lever³

Confusingly, however, while the 1916 manual *illustrates* a Matrix Carrier with integral spring and appears to show a one-piece Matrix-Carrier Lever (see drawing above), on p. 39 it *describes* a spring placed in a two-part Matrix-Carrier Lever (as was the later practice).

³ Not related to the Matrix Carrier; I've left it in here simply to show that this lever as illustrated is not part of the Matrix-Carrier Lever.

This incorporation of the spring into the Matrix Carrier is functionally identical to that shown in John S. Thompson's basic patent for the machine, US patent 1,026,185 filed in 1907 but not issued until 1912-05-14.⁴ The text of this patent clearly specifies a single-piece Matrix-Carrier Lever. Here is Fig. 7 from that patent:

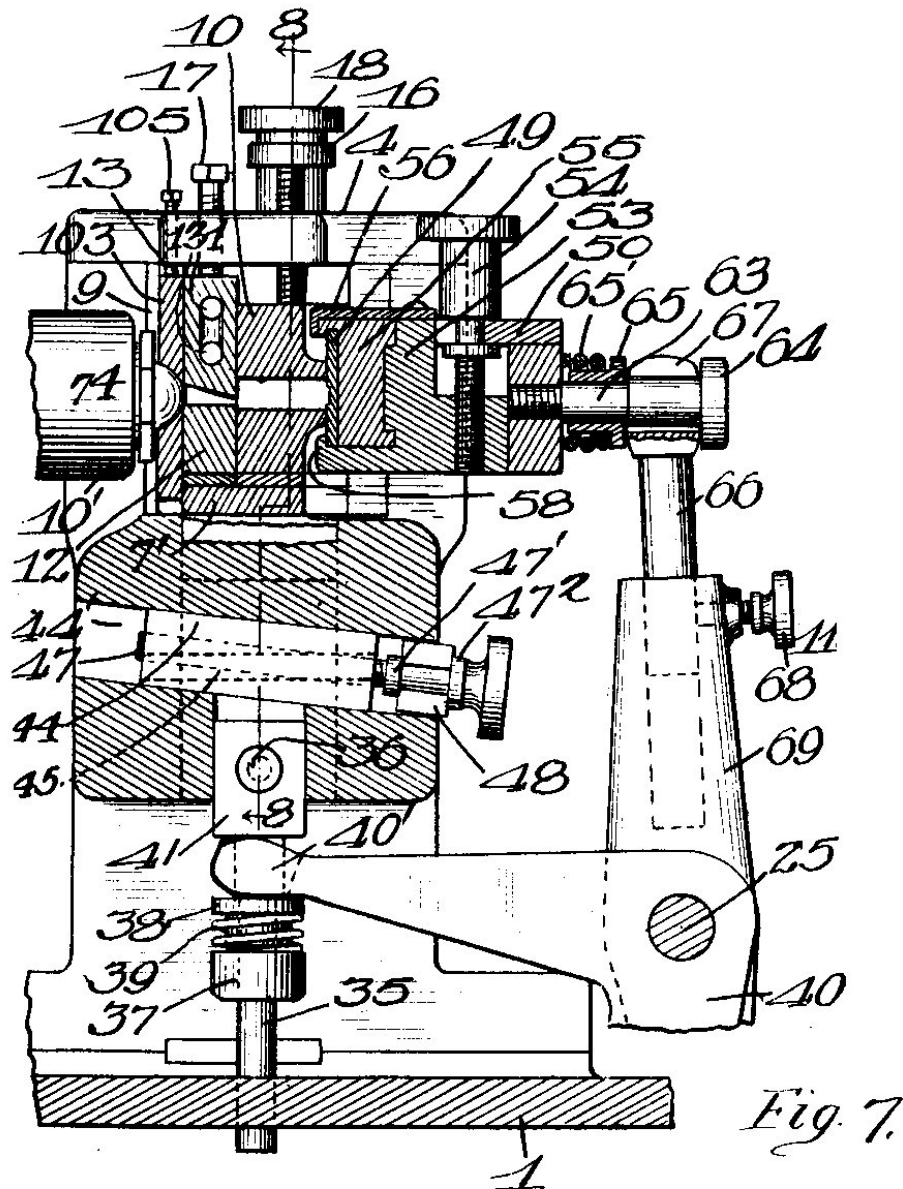


Fig. 6:

⁴ Thompson was also issued US patent 1,133,198, filed in 1912 but issued 1915-03-23 for details of the Matrix Carrier; it also describes the use of the spring and a one-piece lever. This would suggest that this arrangement was being used at least as late as the date of the filing of this patent (1912), but the conflation of both methods in the 1916 manual indicates that it was passing out of use at around that time.

2.2.3 Requires Set Adjusting Block Method

The second point to be made about this style 660 Matrix Carrier is that it was designed for use with the Set Adjusting Block method of set adjustment, not the later Micrometer-Set-Adjusting Device. The principle of the operation of this Device (which is now rare) may be shown through three drawings from patent 1,026,185 (filed 1907). The first of these illustrations, Fig. 5 of the patent, shows a plan view of the mechanism through the level of the mold cavity. Here's a portion of it:

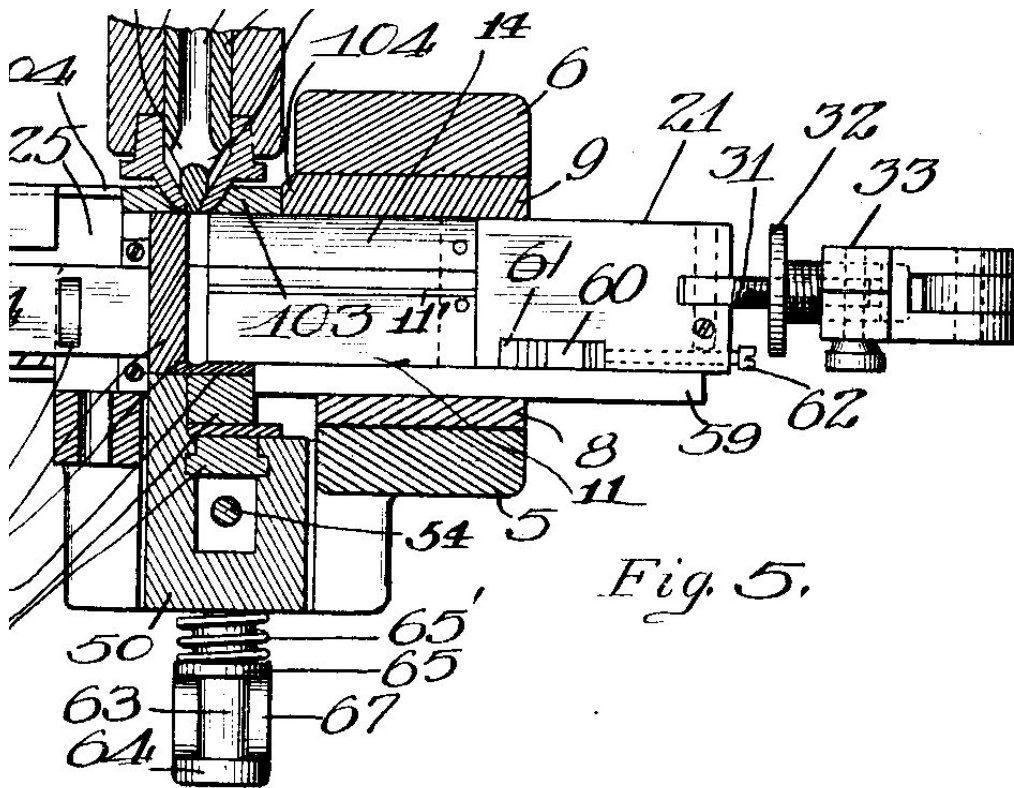


Fig. 7:

The important parts are

- 59 (p/n M-905, Set Adjusting Liner, in the 1925 manual)⁵
- 60, a lug on 59
- 61, an opening in "pusher plate 21" (in production what was specified in the patent as lug 60 and opening 61 became part of M-935 Set Adjusting Liner Banking Plate and M-942 Mold Body Plate, which were assembled as a unit in the factory; see Plate 6 of the 1925 manual)
- 62 set screw (M934, Screw for Set Adjusting Liner)

⁵ M-905 is identified as Monotype-Thompson part 42TC33 in the Symbol Translations in the 1941 Parts List and on p. 23 of the 1956 manual. It is not, however, called out in the 1941 Parts List (and the Group number 42 is, there, assigned to Matrices).

Here are the equivalent parts as shown in the 1925 manual (Plate 6):

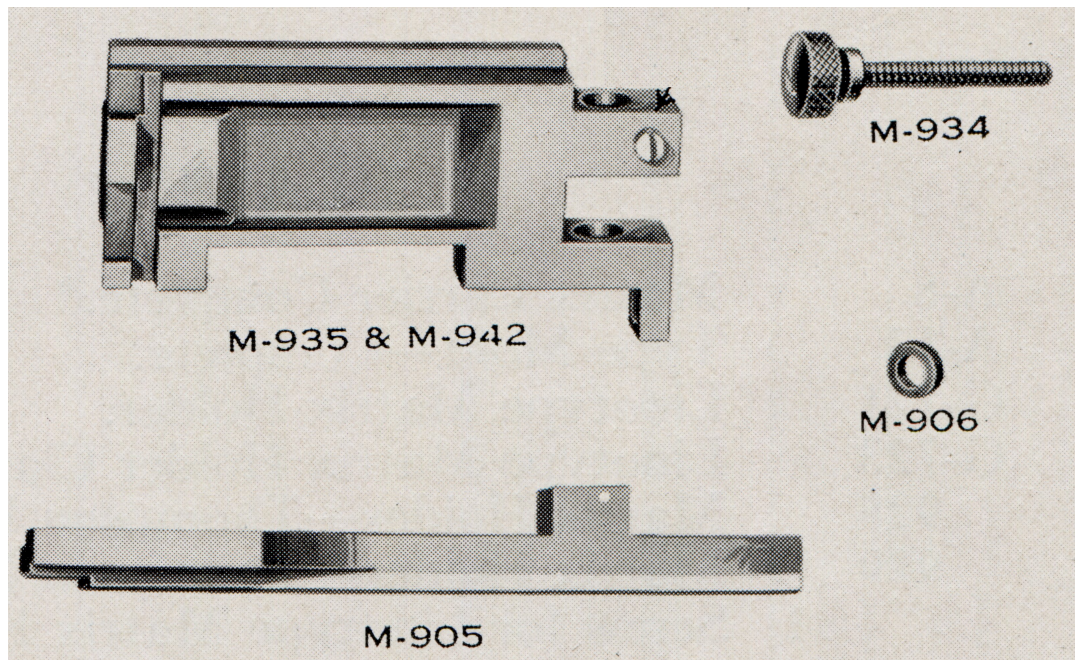


Fig. 8:

The patent also identifies in its Fig. 6 "a series of plates 60' ... of various thicknesses ... provided for insertion in the opening 61". In production, these became parts M-608, Set Adjusting Blocks. Here are the illustrations of them, very schematically from the patent and pictorially from the 1925 manual:

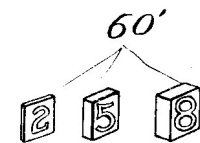


Fig. 6,

Fig. 10:

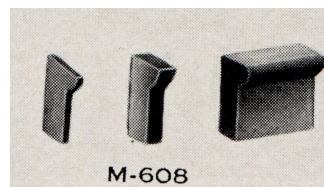


Fig. 9:

Having identified the components of the Set Adjusting Liner mechanism, their operation may be seen in the perspective views from Figs. 9 and 10 of the patent:

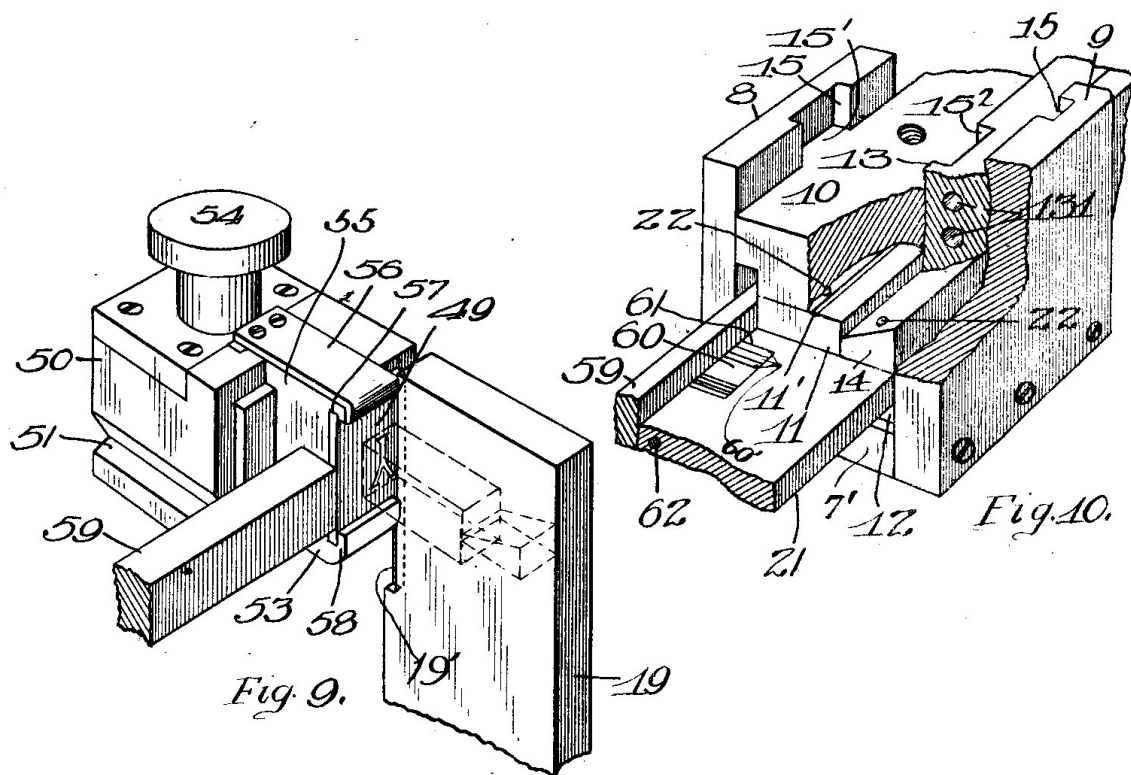


Fig. 11:

Basically, the part "59" (M-905, Set Adjusting Liner) is affixed adjustably to M-942 ("Mold Body Plate," to use the terminology and part numbers of the 1925 manual⁶) The Mold Body Plate is what moves the M-894 Mold Body (not shown.)⁷ The M-894 Mold Body in turn forms the right-hand side of the type casting cavity. The distance you push it in determines the set width of the type.

The distance that it is pushed is determined by the adjustment of "59" / M-905 Set Adjusting Liner. Once fixed for a particular set width (by putting in zero or more M-608 Set Adjusting Blocks, it moves with the M-894 "Mold Body." It stops when it banks on the right-hand side of the matrix. (In principle this is very similar to the mechanism used in a hand mold.) The combination of the matrix width and the setting of the Set Adjusting Liner determines the set width of the type.

One other minor point might be mentioned: In the patent, the left side of the matrix banks against a notch in the Vertical Mold Blade (and the matrix is held in only by the pressure of a spring, shown as "59" in the drawing above). I do not know whether this feature was retained in production machines. However, both Matrix Carrier style 660 and style A-8 have a small nib projecting beyond the front of the Matrix Carrier's left sidewall. This nib seems to be a banking point for the left side of the matrix. This would suggest that this feature of the patent was not retained in even relatively early production machines.

⁶ In later machines, the equivalent part would become the 45TC Type-Body-Piece Plate.

⁷ In later machines, the equivalent part would become the 44TC Type Body Piece, colloquially known as the "Point Blade."

The important point to be inferred (I'm reverse-engineering here from paper, not from actual experience) from this mechanism is that the M-905 Set Adjusting Liner needs something in the Matrix Holder pretty firm to stop its motion. The styles of Matrix Holders designed for use with Matrix Carrier style 660 and (not yet shown) A-8 are basically just blocks of steel - plenty of firm area for it to hit. However, the styles of Matrix Holders designed for use with Matrix Carriers A-11-B (= 26TC) and 27TC do not have this firm banking surface. The 1925 manual, heretofore difficult to interpret (at least I found it to be so) now makes sense when it says:

The Style "B" Matrix Holder, plate 8 [that is, A-11-B, = 26TC], is for both wide and narrow Thompson Matrices. It must be used on machines with the new Micrometer Set Adjusting Device; it cannot be used on machines where the Set Adjusting Blocks (M-608) and the Set Adjusting Liner (M-905) are still in use. (p. 23)

2.3. Matrix Carrier Style A-8

The next Matrix Carrier identified in the literature is the one designated by Thompson Type Machine Company part number A-8, in the 1925 manual.

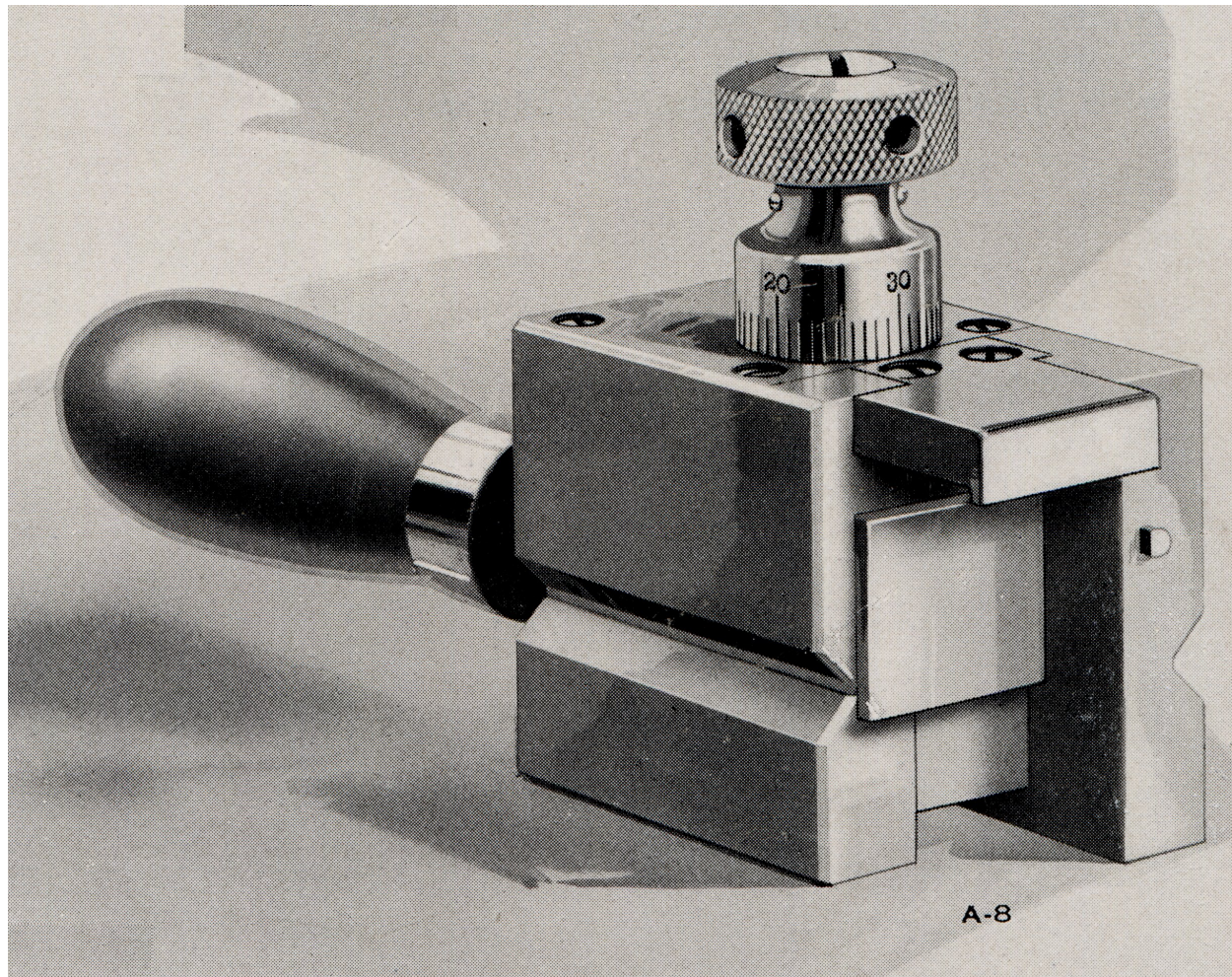


Fig. 12: Matrix Carrier, Style A-8.

This Matrix Carrier would seem to have been designed to hold Linotype/Intertype matrices directly (with a "Matrix Holder" which functions quite differently from other styles) and Thompson matrices using an appropriate Matrix Holder.

For casting Linotype/Intertype matrices with this Matrix Carrier, the 1925 manual says:

When casting from Linotype or Intertype Matrices, remove the Thompson Matrix Holder and insert the Linotype or Intertype Matrix into the Matrix Carrier (A-8). Press the Matrix firmly against the side wall of the Matrix Carrier with its combination [teeth] upward against the overhanging Top Shoe. Place an 8 point Linotype or Intertype blank Quad Matrix against the side of the letter Matrix. This forms a side wall for the face and prevents fins. Then place the Linotype Matrix Holder (G-721),

plate 7, in the Matrix Carrier (A-8) and press it firmly against the blank Quad Matrix and the letter Matrix while tightening the Screw (X-108-11) which tightens the Linotype Matrix Holder Clamp (G-723). (p. 18)

Here is the Linotype Matrix Holder (G-721):

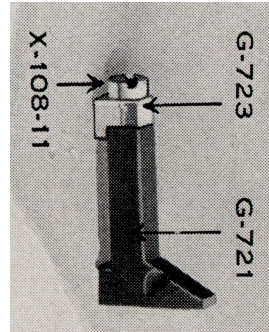


Fig. 13:

For casting Thompson matrices, one of two Matrix Holders, G-928 for wide Thompson matrices and G-929 for narrow.

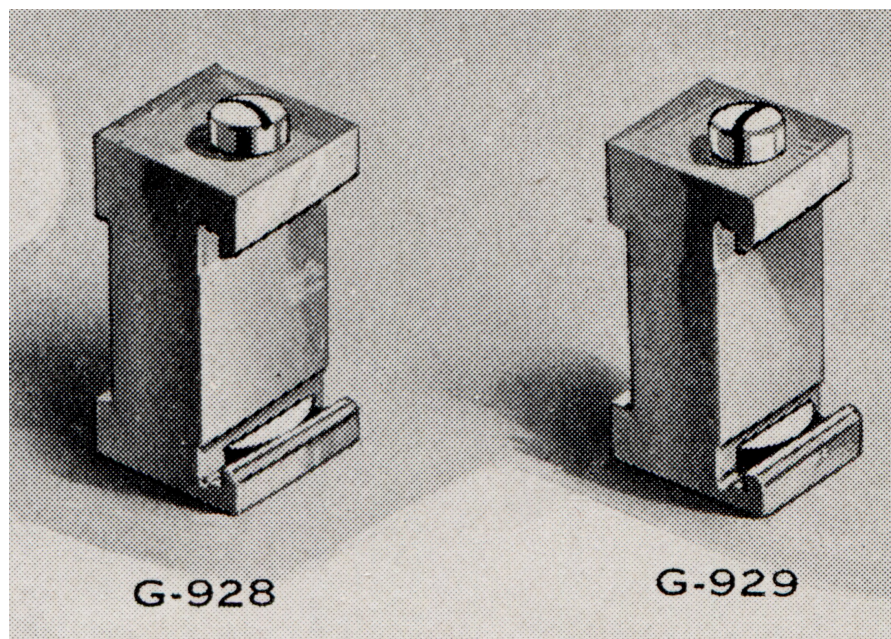


Fig. 14:

The discussion of the "Setwise Size of Type" in the 1925 manual (pp. 17-18) assumes the use of the Set Adjusting Block mechanism (not the Micrometer Set Width Adjusting Device) and Matrix Carrier A-8. So it is certain that style A-8 could be used with the Set Adjusting Block mechanism. The discussion of the Micrometer Set Adjusting Device on p. 19 of the 1925 Manual says that the "new Matrix Holder Style 'B' [requiring Matrix Carrier style A-11-B] ... must be used with the Micrometer Set Adjusting Device." I assume that this implies that style A-8 Matrix Carriers could not be used with the Micrometer Set Adjusting Device.

This style of Matrix Carrier would seem not to employ the spring within the carrier, as was the case with style 660. The 1925 Thompson manual describes only a two-part Matrix-Carrier Lever with a spring within the lever, not the one-part lever requiring the spring to be within the Matrix Carrier. In general, no Matrix Carrier after style 660 would seem to have this spring.

None of the parts for Matrix Carrier Style A-8 or its associated Matrix Holders are given Monotype-Thompson equivalents in the 1950 or 1956 manual; this style of Matrix Carrier/Holder does not exist in those manuals.

2.4. Matrix Carrier Style A-11-B (probably = 26TC)

This style of Matrix Carrier is illustrated as part number A-11-B in the 1925 manual. It is also called the carrier for the Style "B" Matrix Holder (identified as being on "plate 8," which is the plate which illustrates A-11-B):

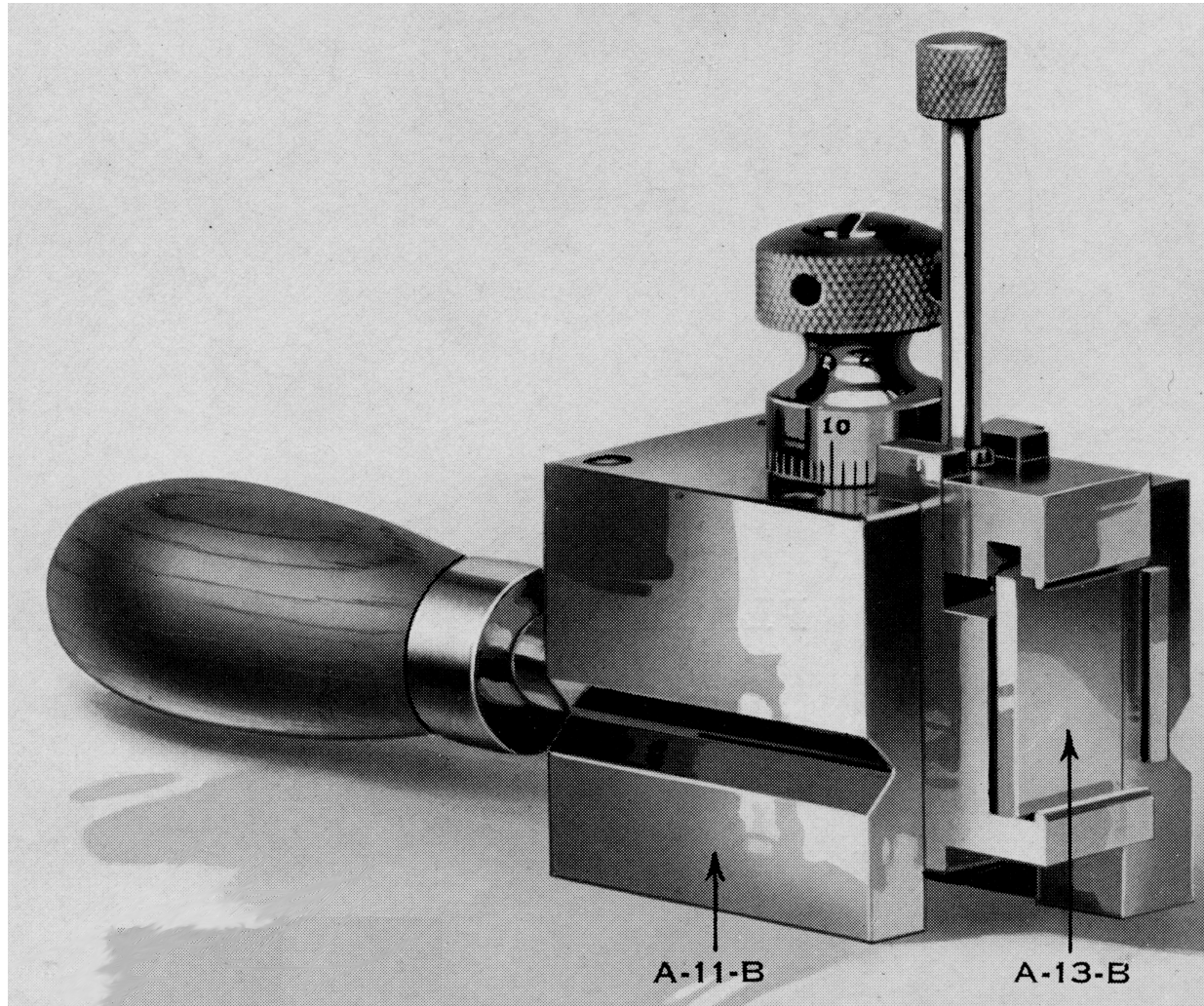


Fig. 15: Matrix Carrier A-11-B (=? 26TC) with Matrix Holder A-13-B

Unlike the earlier style A-8 Matrix Carrier, which held Linotype/Intertype matrices directly, the style A-11-B Matrix Carrier holds all matrices in a separate Matrix Holder.

It is also certain (because the 1925 manual says so on p. 23) that this style A-11-B Matrix Carrier cannot be used on machines equipped with the Set Adjusting Block system, but instead must be used with the Micrometer Set Adjusting Device. The reason for this may be that while this Matrix Carrier still has a fixed (not adjustable) left side wall, there is still an Adjusting Wedge (the precise action of which I do not yet understand) between the left side wall of the Matrix Carrier and the Matrix Holder. I presume that this additional mechanism would make it inadvisable to bank the M-905 Set Adjusting Liner against the Matrix Holder.

2.5 Matrix Carrier Style 26TC

There is some question, based on the documentation, of whether the style A-11-B Matrix Carrier (shown in the 1925 Thompson Type Machine Company manual) is identical to, or different from, the style 26TC Matrix Carrier (shown in the 1950 and 1956 Lanston Monotype Machine Company manual). On the one hand, the Symbol Translations table in the 1941 Lanston parts list explicitly fails to give Monotype symbols for Thompson parts A-11 and A-11-B. On the other hand, the illustrations used in the 1950 and 1956 manuals for Xa26TC are the same illustrations (exactly) as the one in the 1925 manual for A-11-B.

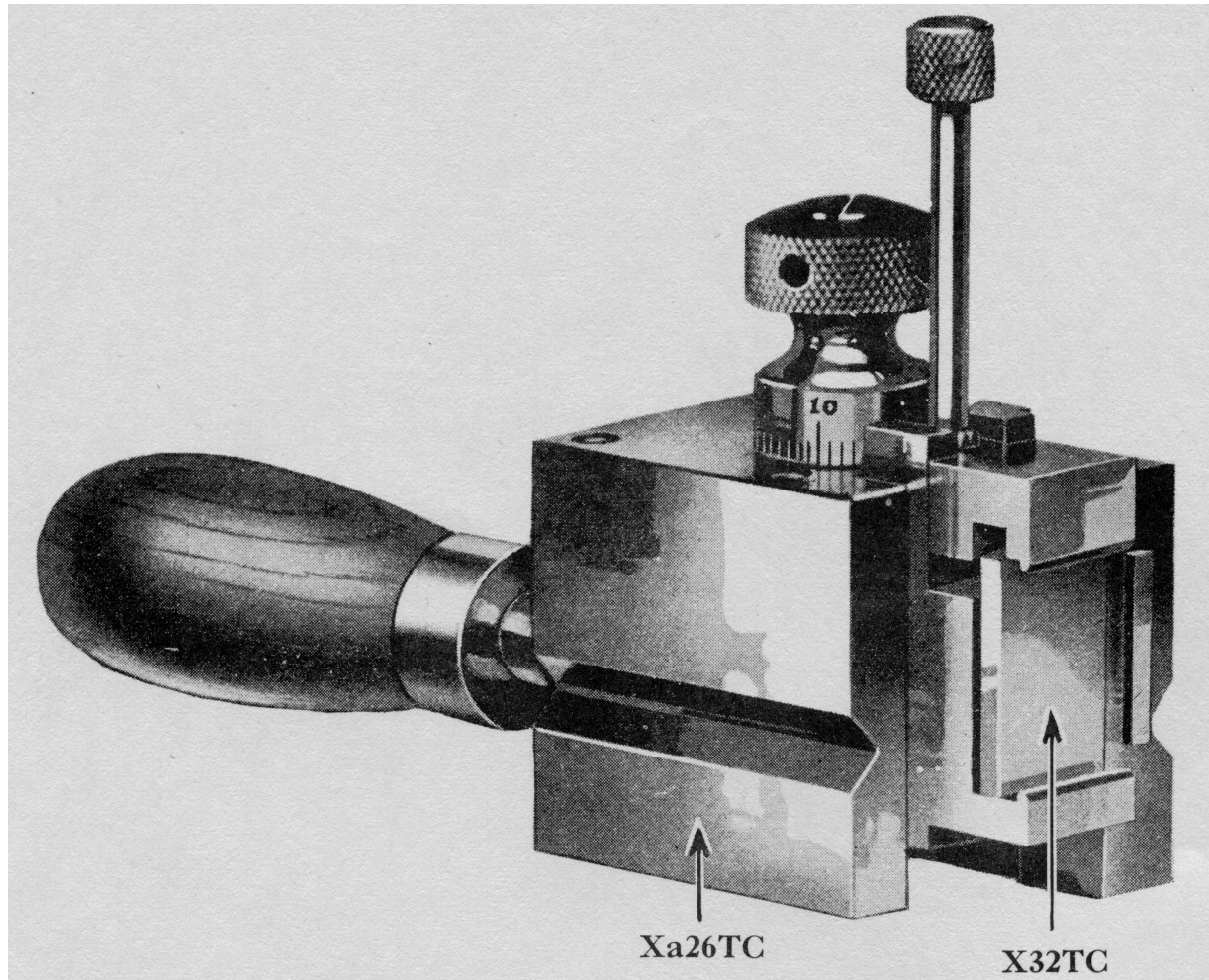


Fig. 16:

It really is the same cut - look at the pattern of shading on the sidewall of the Carrier.

2.6. Special Adjustable Side Wall Matrix Carrier (probably = 27TC)

The 1925 Thompson Type Machine Company manual illustrates not just styles A-8 and A-11-B, but also another style of Matrix Carrier. This is the "Special Adjustable Side Wall Matrix Carrier" (not given a part number). It is illustrated in use only with the "Special Adjustable Matrix Holder for Foundry Style Matrices" (no part number either).⁸ See Plate 9 of the manual. However, p. 22 of the manual notes that "[this Carrier] can also be used for Thompson, Linotype and Intertype matrices by the purchase of the necessary holders."

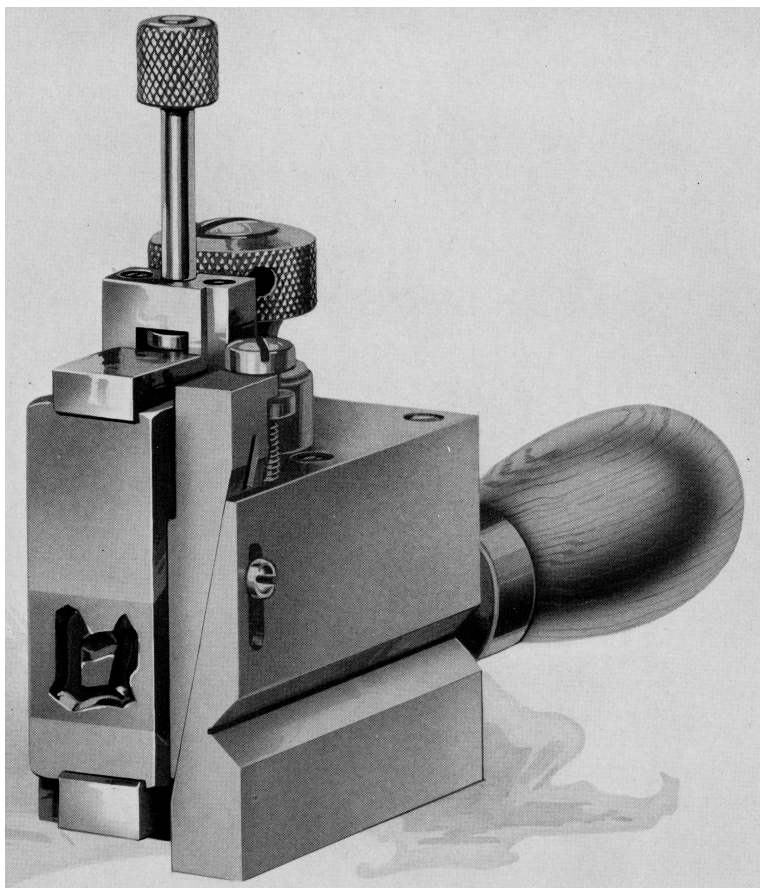


Fig. 17:

This "Special Adjustable Side Wall Matrix Carrier" looks to be identical to the style 27TC Matrix Carrier (at least the 1950 and 1956 manuals simply use the same picture for it). Since it is not given a part number in the 1925 manual, the fact that it is not mentioned in the Symbol Translations table of the 1950/1956 manuals is not meaningful.

⁸ I presume that this "Special Adjustable Matrix Holder for Foundry Style Matrices" illustrated on plate 9 of the 1925 manual is the same as the "Quick Change Holder for Foundry Style Matrices," discussed on p. 22 of the same, because the discussion on p. 22 refers to the holder illustrated on plate 9, and this is the only holder illustrated on that plate.

2.7. Matrix Carrier Style 27TC

Matrix Carrier style 27TC is illustrated in the 1950 and 1956 manuals and identified in the 1941/1942 Parts Price List. It would appear to be identical to the "Special Adjustable Side Wall Matrix Carrier" shown in the 1925 Thompson Type Machine Company manual. This would suggest (without proof) that it developed out of that Matrix Carrier, which was promoted in 1925 primarily for use with the Special Adjustable Matrix Holder / Quick Change Holder For Foundry Style Matrices.

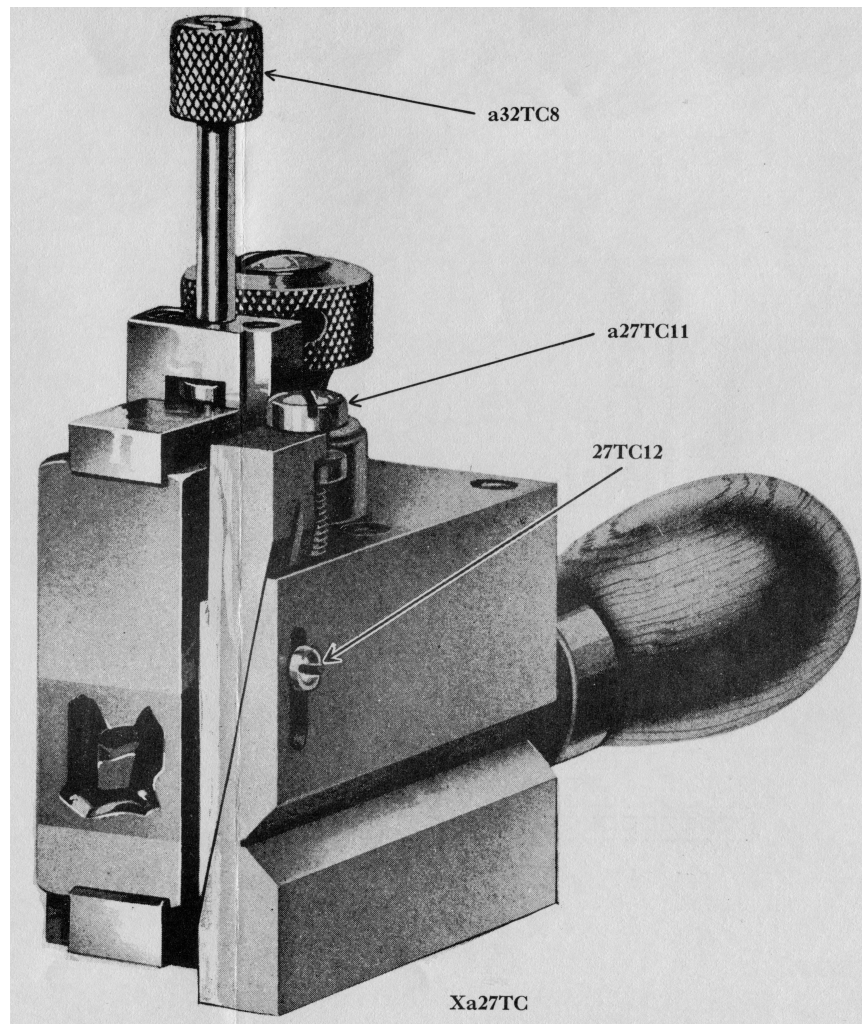


Fig. 18:

The style 27TC Matrix Carrier has two salient features:

First, it has an adjustable left side wall.

Second, it takes a wide range of Matrix Carriers in a much more rational manner than.

Also, like the earlier A-11-B / 26TC style Matrix Carrier, it must be used with the Micrometer Set Width Adjusting Device and cannot be used with the Set Adjusting Block method of set adjustment.

3. Matrix Holder Styles

3.1. Matrix Holders for Style 660 Matrix Carriers

[NOT DONE]

3.2. Matrix Holders for Style A-8 Matrix Carriers

From the 1925 Thompson manual:

G-928 for Wide Thompson Matrices and G-929 for Narrow Thompson Matrices:

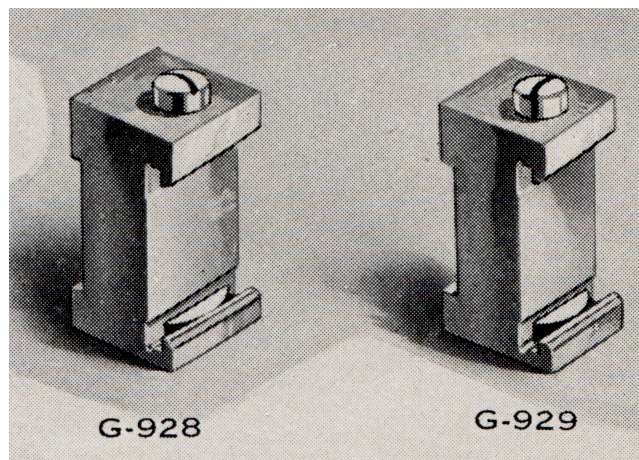


Fig. 19:

G-721 for Linotype Matrices (this is really just a right-side retaining piece; the Linotype Matrices fit directly into the style A-8 Matrix Carrier and bank against its left sidewall):

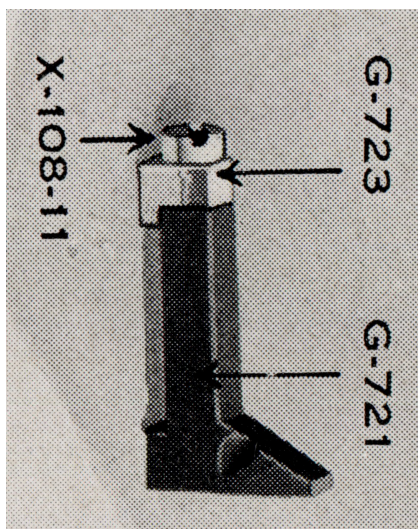


Fig. 20:

3.3. Style "B" Matrix Holders (for Style A-11-B Matrix Carrier)

From the 1925 Thompson Type Machine Company manual, plate 8:

"Matrix Holder, Style B, for both wide and narrow Thompson Matrices," part number A-13-B (shown here installed in "Standard Matrix Carrier, Style B," part number A-11-B):

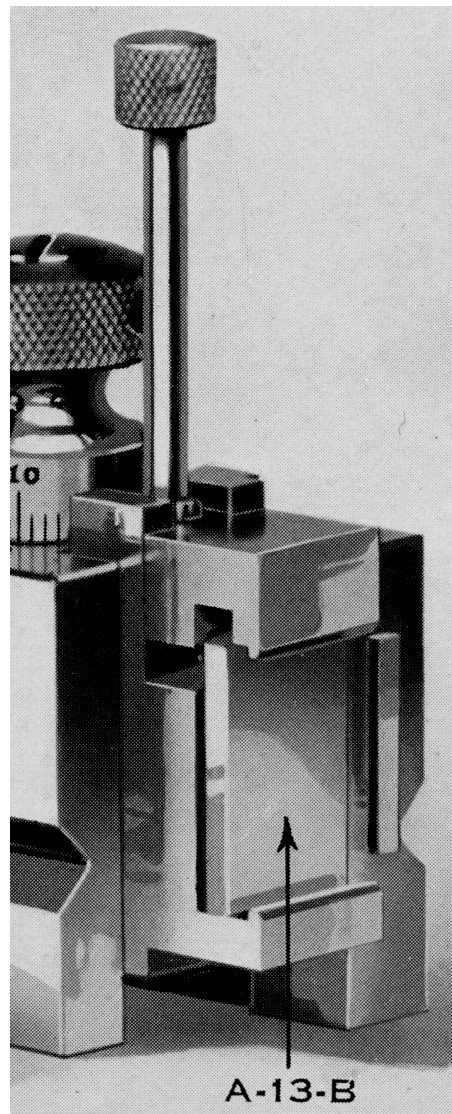


Fig. 21:

Below, left: "Linotype Matrix Holder, Style B," part number A-10-B:

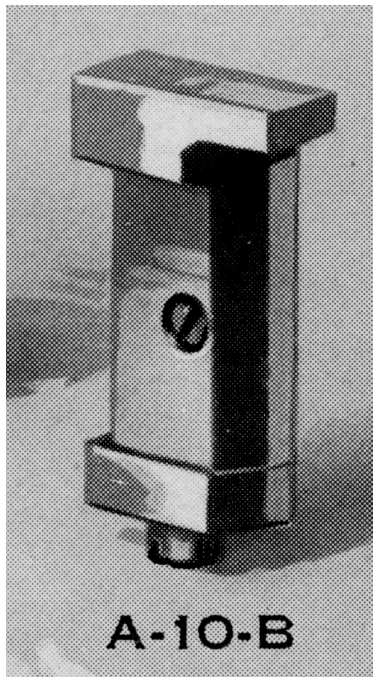


Fig. 22:

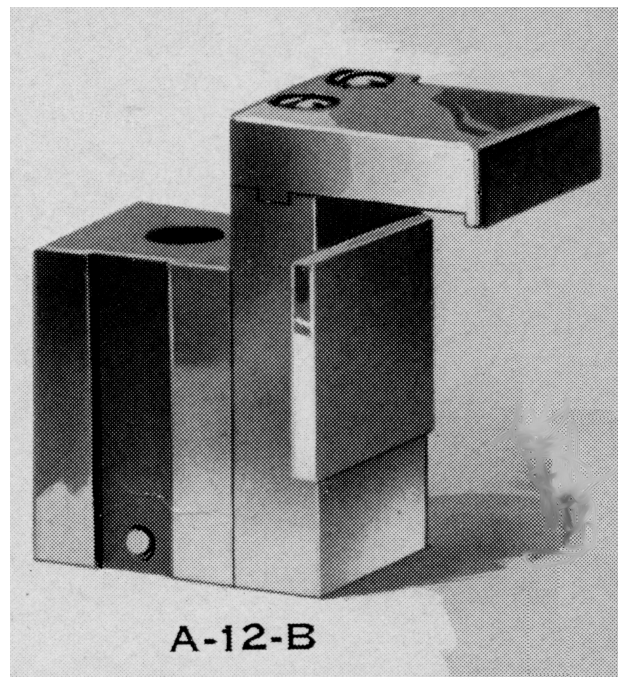


Fig. 23:

Above, right: "Matrix Carrier Adjusting Block," part number A-12-B.

This A-12-B "Adjusting Block" is also called out as part number 918 on p. 23 of the manual. In the Symbol Translations table on pp. 20-21 (PDF 22-23) of the 1941/1942 Parts Price List, old style part number B918 is identified as Lanston Monotype part number 31TC1. In that same Parts Price List, 31TC1T is the Matrix Holder Body (for Linotype or Intertype Matrices).

A-12-B looks, indeed, very much like the body of a Matrix Holder which would fit into a Matrix Carrier. It also looks as if it would receive Linotype Matrices directly. Part A-10-B, called here the "Holder," looks more like a right-side retaining piece (functionally similar to G-721 as used with style A-8 Matrix Carriers) intended as a "holder" to hold (retain) the Linotype matrices in A-12-B.

However, note that the 1956 Symbol Translations table lists A-12-B but gives no symbol translation for it.

3.4. Special Adjustable Matrix Holder for Foundry Style Matrices

This Matrix Holder is shown on Plate 9 of the 1925 manual.

I presume that this "Special Adjustable Matrix Holder for Foundry Style Matrices" illustrated on plate 9 of the 1925 manual is the same as the "Quick Change Holder for Foundry Style Matrices," discussed on p. 22 of the same, because the discussion on p. 22 refers to the holder illustrated on plate 9, and this is the only holder illustrated on that plate.

This "Special Adjustable" / "Quick Change" Foundry Matrix holder is shown in use (on plate 9) with the "Special Adjustable Side Wall Matrix Carrier." This Carrier is, as previously discussed, probably the same as the style 27TC Matrix Carrier. Similarly, this "Special Adjustable Matrix Holder for Foundry Style Matrices" would appear to be identical to the Matrix Holder X33TC (which could be used in both style 26TC and style 27TC Matrix Carriers). The 1950 and 1956 manuals use 1925 "Special Adjustable" illustration to show Matrix Holder X33TC.

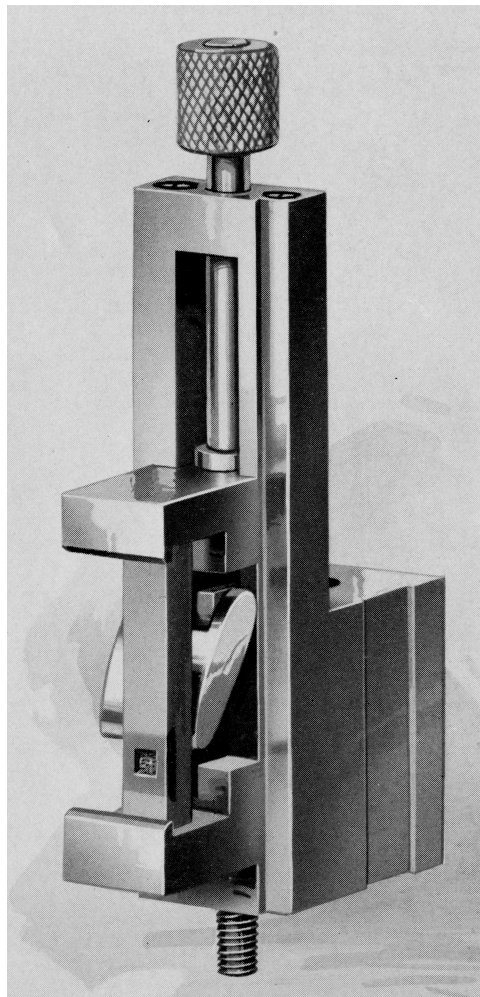


Fig. 24:

3.5. Matrix Holders for Styles 26TC and 27TC Matrix Carriers

3.5.1 Survey of the Combinations

I find the identification in the Parts Price Lists of Matrix Holders and the Matrix Carriers to work with them to be baffling. This is, I think, because these lists are as concise as possible. I've tried here, in addition to illustrating those Matrix Carriers for which I have images, to "unpack" these identifications in a more comprehensible way. For the most part, though, these three principles guide the configuration:

1. The two Cellular Matrix Holders (X34TC for American, X35TC for English) are not standalone units, but instead fit inside the Linotype/Intertype Matrix Holder (Xa31TC).
2. Adapting the style 26 Matrix Carrier to the various Matrix Holders is mostly a matter of changing the Side Wall or the Side Wall Bearing Plate. There are numerous complications, however, and for two kinds of matrices (Monotype Display and Linotype) there are three different configurations possible. The situations are:
 - Xa26TC - for Monotype Display / Thompson (Matrix Holder unspecified, but presumably X32TC)
 - a26TC21 - Xa26TC20 (Carrier configured for Ludlow Matrix Holder), adapted for Monotype Display or Thompson Matrix Holder (unspecified, but presumably X32TC)
 - a26TC25 - Xa26TC23 (Carrier configured for English Display Matrix Holder X88TC), adapted for Monotype Display or Thompson Matrix Holder (unspecified, but presumably X32TC)
 - Xa26TC - for Linotype / Intertype Matrix Holder (unspecified, but presumably Xa31TC)
 - a26TC22 - Xa26TC20 (Carrier configured for Ludlow Matrix Holder), adapted for Linotype / Intertype Matrix Holder (unspecified, but presumably Xa31TC).
 - a26TC24 - Xa26TC23 (Carrier configured for English Display Matrix Holder X88TC), adapted for Linotype / Intertype Matrix Holder (unspecified, but presumably Xa31TC)
 - Xa26TC19 - for American Cellular Matrix Holder X34TC, held within Xa31TC Linotype Holder
 - Xa26TC19 - for English Cellular Matrix Holder X35TC, held within Xa31TC Linotype Holder
 - Xa26TC20 - for Ludlow Matrix Holder X36TC
 - Xa26TC23 - for English Display Matrix Holder X88TC
 - No configuration called out for Matrix Holder X33TC (Foundry Matrices)
 - No configuration called out for Matrix Holder X87TC (Giant Caster

Matrices)

3. Adapting the style 27TC Matrix Carrier to the various Matrix Holders is mostly a matter of changing the Side Wedge. There are only four different Side Wedge situations:

- Xa27TC - Monotype Display (default)
- Xa27TC20 - Giant Caster
- Xa27TC21 - Linotype/Intertype/Foundry
- Xa27TC24 - American Cellular / English Cellular / English Display / Ludlow

3.5.2. Matrix Holder 31TC (Linotype/Intertype)

3.5.2.1. 31TC Identification

This is the Matrix Holder for use with Matrix Carriers 27TC and 26TC for Linotype and compatible matrices. It is a standalone unit (meaning that it is placed directly in to an appropriate Matrix Carrier) and is identified as a whole by the symbol Xa31TC.⁹

See the section "Matrix Holders and Depth-of-Drive" for a discussion of issues involved with the potential use of this Matrix Holder with English Linotype matrices.

[TO DO: Photograph mine]

⁹ From the 1941-03-01 Parts Price List on. The 1940-05-21 Price List is ambiguous about its identification. Presumably at some earlier point there was an X31TC, but the modification which changed this to Xa31TC is unknown.

3.5.2.2. 31TC Configuration and Use

When using this Matrix Holder with Matrix Carrier style 27TC, change the Matrix Carrier's Side Wall Wedge to a27TC21.

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X31TC for casting Linotype/Intertype Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC21. The resultant Matrix Carrier for Linotype/Intertype Matrices was then identified as Xa27TC21.¹⁰

When using this Matrix Holder with Matrix Carrier style 26TC, there are three possible ways to configure the Matrix Carrier. The simplest of these was simply to use the default configuration (with Side Wall a26TC9T and Bearing Plate a26TC10), which was assigned the symbol Xa26TC.

This same Matrix Carrier style 26TC configuration could be used with Matrix Holder X32TC for Monotype Display or Thompson Matrices. This brings up an interesting point, because while the depth-of-drive of Thompson and American Linotype Matrices is 0.043 inches, that of Monotype Display Matrices is 0.050 inches. Although Molds and Matrix Holders interact, the accommodation of depth-of-drive is done in the Mold, not the Matrix Holder.

The other two methods of configuring Matrix Carrier style 26TC for use with this Matrix Holder are more complex, and involve using parts for Ludlow or English Display configurations.

In one of these ways, the Matrix Carrier 26TC could be configured first with Matrix Carrier Side Wall (left) a26TC20. This is the same Side Wall used for the Ludlow Matrix Holder (X36TC) and (for Ludlow use) is identified as Xa26TC20. This configuration Xa26TC20 then could further be configured with Matrix Carrier Side Wall Bearing Plate a26TC22. This resultant configuration had no special "X..." symbol. This configuration could be used for casting Linotype/Intertype Matrices, presumably with Matrix Holder Xa31TC (though the Holder is not called out by symbol).

In another way, it [26TC] could be configured first with Matrix Carrier Side Wall (left) a26TC23 and Matrix Carrier Side Wall (left) Bearing Plate a26TC24. This is the same Side Wall and Bearing Plate configuration used for the English Display Matrix Holder X88TC. This configuration X88TC then could be reconfigured with Matrix Carrier Side Wall Bearing Plate a26TC24. The resultant configuration had no special "X..." symbol. This configuration could be used for casting Linotype/Intertype Matrices (again, with an unspecified Matrix Holder, presumably Xa31TC).

If in fact the Matrix Carrier style A-11-B is the same as style 26TC, then Matrix Holder X31TC should fit it.

¹⁰ From at least the 1940-05-21 Price List on.

3.5.3. Matrix Holder 32TC (Monotype Display and Thompson)

This is the Matrix Holder for use with Matrix Carriers 27TC and 26TC for both English and American Monotype Display Matrices and for Thompson Matrices.

[TO DO: photograph mine]

For use in casting Monotype Display or Thompson Matrices, Matrix Carrier 26TC could be configured in three possible ways.

In one way, it could simply be configured in its default configuration, using Matrix Carrier Side Wall a26TC9T and Bearing Plate a26TC10. This configuration was assigned the symbol Xa26TC. This configuration could be used for casting Monotype Display or Thompson Matrices, presumably with Matrix Holder X32TC. (The same configuration could be used with Matrix Holder Xa31TC for Linotype/Intertype Matrices.)

In another way, it [26TC] could be configured first with Matrix Carrier Side Wall (left) a26TC20. This is the same Side Wall used for the Ludlow Matrix Holder (X36TC) and (for Ludlow use) is identified as Xa26TC20. This configuration Xa26TC20 then could further be configured with Matrix Carrier Side Wall Bearing Plate a26TC21. This resultant configuration had no special "X.." symbol. This configuration could be used for casting Monotype Display or Thompson Matrices, presumably with Matrix Holder X32TC (though the Holder is not called out by symbol).

In another way, it [26TC] could be configured first with Matrix Carrier Side Wall (left) a26TC23 and Matrix Carrier Side Wall (left) Bearing Plate a26TC24. This is the same Side Wall and Bearing Plate configuration used for the English Display Matrix Holder X88TC. This configuration X88TC then could be reconfigured with Matrix Carrier Side Wall Bearing Plate a26TC25. The resultant configuration had no special "X.." symbol. This configuration could be used for casting Linotype Matrices (again, with an unspecified Matrix Holder, presumably X32TC).

The default configuration of Matrix Carrier style 27TC was that for use with Matrix Holder X32TC. As such it was furnished with its default Matrix Carrier Side Wall Wedge a27TC10 and identified simply as Matrix Carrier Xa27TC.

3.5.4. Matrix Holder 33TC (Foundry)

Shown in the 1950 and 1956 manuals, using the same cut as was used in the 1925 Thompson Type Machine Company manual for the "Special Adjustable Matrix Holder for Foundry-Style Matrices" / "Quick-Change Holder for Foundry Style Matrices."

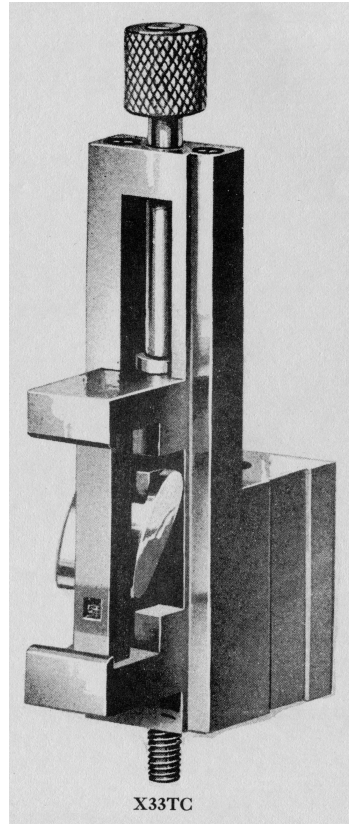


Fig. 25:

There is no configuration of the style 26TC Matrix Carrier listed in the 1941 Parts Price List which adapts it for use with Matrix Holder X33TC.

There may be an error in the 1941 Parts Price List which leads to an ambiguity in specifying the use of Matrix Holder X33TC with Matrix Carrier style 27TC.

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. The 1941 Parts Price List specifies the use, instead, of Matrix Carrier Side Wall Wedge a27TC21 for "Intertype, Linotype and Foundry Style Matrices held in Matrix Holder Xa31TC." The resultant Matrix Carrier is then identified as Xa27TC21.

The problem, of course, is that while Matrix Holder Xa31TC is (as suggested) for Linotype/Intertype Matrices, it is not for Foundry Matrices. These take Matrix Holder 33TC. So it is not clear which Wedge should be supplied for using style 27TC Matrix Carriers with Matrix Holder X33TC.

3.5.5. Matrix Holder 34TC (American Cellular)

Matrix Holder 34TC is itself held in Matrix Holder Xa31TC (the Linotype/Intertype Matrix Holder, which has the Shoe (top) Clamping Lever subassembly).

American Cellular Matrices are cast nick-down. This requires changes not only to the Mold but also to the 79TC Type-Receiving Plate and 80TC Type-Receiving Shoe.

Matrix Carrier style 26TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) or Matrix Carrier Xa31TC (Linotype/Intertype Matrices) was furnished with Matrix Carrier Side Wall a26TC9T. When this Matrix Carrier was to be used with Matrix Holder X34TC for casting American Cellular Matrices, it was furnished instead with Matrix Carrier Side Wall a26TC19. The resultant Matrix Carrier for American Cellular Matrices was then identified as Xa26TC19. (This configuration and symbol are identical to those for English Cellular.)

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X34TC for casting American Cellular Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC24 and Screw a27TC23. The resultant Matrix Carrier for American Cellular Matrices was then identified as Xa27TC24.

This same symbol, Xa27TC24, describes a configuration of the Matrix Carrier which was used in four Matrix Holder situations:

- Holder X34TC with X31TC (American Cellular) in Carrier style 27TC [this present situation]
- Holder X35TC with X31TC (English Cellular) in Carrier style 27TC
- Holder X88TC (English Display) in Carrier style 27TC
- Holder X36TC (Ludlow) in Carrier style 27TC

Here are several photographs of a Matrix Holder X34TC / Xa31TC in a Matrix Carrier style 27TC (together, symbol Xa27TC24). These were taken on two occasions at Skyline Type Foundry; I do not own such a Holder. These are just snapshots, not studio photographs.

Here are several photographs of a Matrix Holder X34TC / Xa31TC in a Matrix Carrier style 27TC (together, symbol Xa27TC24). These were taken on two occasions at Skyline Type Foundry; I do not own such a Holder. These are just snapshots, not studio photographs.

The Holder is shown with a Cellular matrix which is a box ornament. This is particularly useful for alignment.

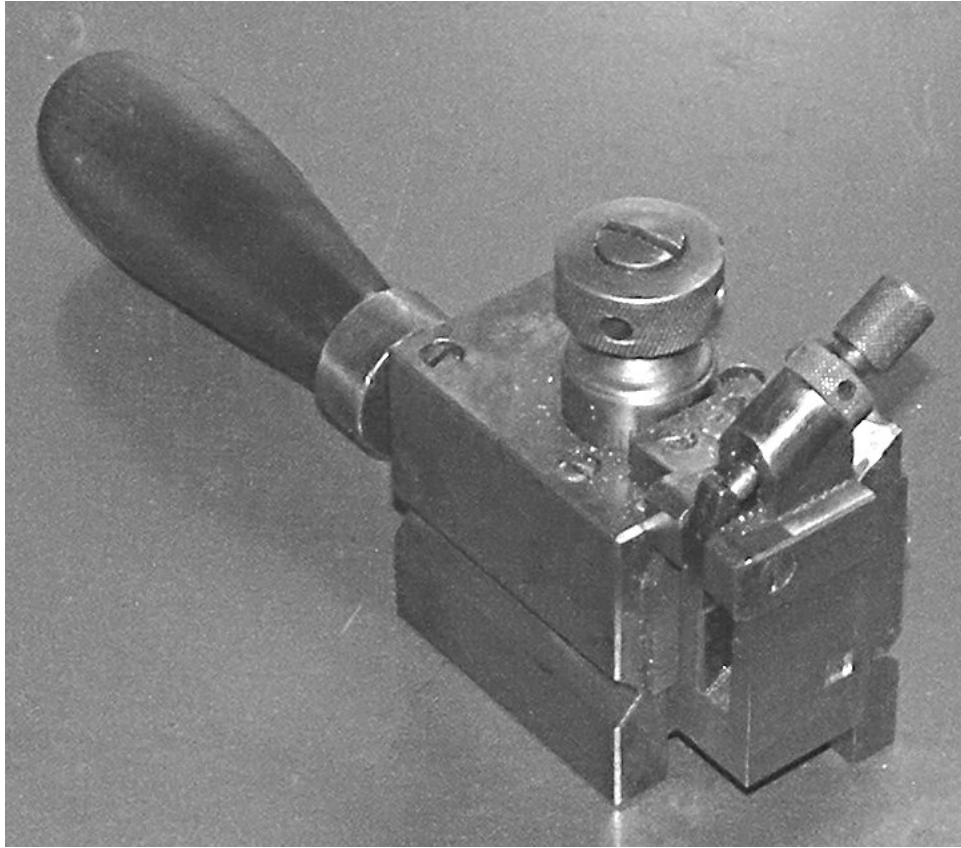


Fig. 26:

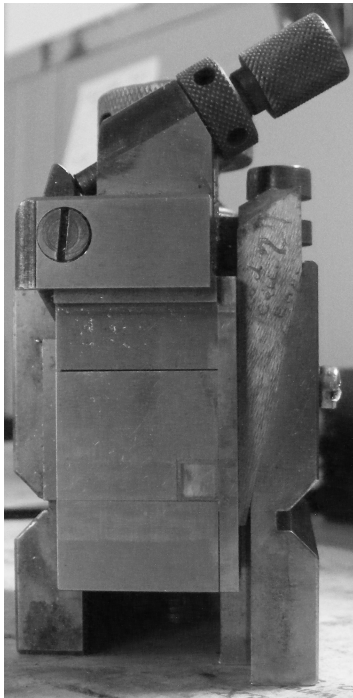


Fig. 27:

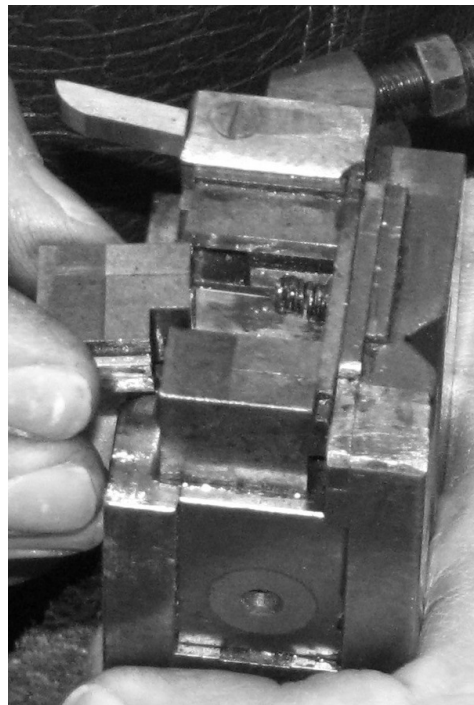


Fig. 28:

3.5.6. Matrix Holder 35TC (English Cellular)

Matrix Holder 35TC is itself held in Matrix Holder 31TC the Linotype/Intertype Matrix Holder, which has the Shoe (top) Clamping Lever subassembly).

The 1941/1942 Parts Price List indicates that Cellular Matrices are cast nick-down. I know from experience that American Cellular matrices are so cast; I presume that English Cellular matrices are also cast nick-down. This requires changes not only to the Mold but also to the 79TC Type-Receiving Plate and 80TC Type-Receiving Shoe.

[No pictures available yet.]

Matrix Carrier style 26TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) or Matrix Carrier Xa31TC (Linotype/Intertype Matrices) was furnished with Matrix Carrier Side Wall a26TC9T. When this Matrix Carrier was to be used with Matrix Holder X35TC for casting English Cellular Matrices, it was furnished instead with Matrix Carrier Side Wall a26TC19. The resultant Matrix Carrier for English Cellular Matrices was then identified as Xa26TC19. (This configuration and symbol are identical to those for American Cellular.)

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X35TC for casting English Cellular Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC24 and Screw a27TC23. The resultant Matrix Carrier for English Cellular Matrices was then identified as Xa27TC24.

This same symbol, Xa27TC24, describes a configuration of the Matrix Carrier which was used in four Matrix Holder situations:

- Holder X34TC with X31TC (American Cellular) in Carrier style 27TC
- Holder X35TC with X31TC (English Cellular) in Carrier style 27TC [this present situation]
- Holder X88TC (English Display) in Carrier style 27TC
- Holder X36TC (Ludlow) in Carrier style 27TC

3.5.6. Matrix Holder 36TC (Ludlow)

Even though it also employs a Clamping Lever, Matrix Holder X36TC (Ludlow) is a standalone unit (it is not combined with Xa31TC in the way that the two Cellular holders X34TC and X35TC are).

Note that due to the very large Ludlow depth-of-drive, it is when changing to and from Ludlow equipment to verify that the adjustment of the Matrix-Carrier Lever is correct. Failure to do so can result in broken parts or squirts.

[TO DO: photograph mine.]

Matrix Carrier style 26TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) or Matrix Carrier Xa31TC (Linotype/Intertype Matrices) was furnished with Matrix Carrier Side Wall a26TC9T. When this Matrix Carrier was to be used with Matrix Holder X36TC for casting Ludlow Matrices, it was furnished instead with Matrix Carrier Side Wall a26TC20. The resultant Matrix Carrier for Ludlow Matrices was then identified as Xa26TC20.

Note that this symbol, Xa26TC20, also identifies a configuration which was an "intermediate" configuration on the way to an alternative configuration of the style 26TC Matrix Carrier for use with Monotype Display / Thompson Matrices (see above under Matrix Holder X32TC) or Linotype/Intertype Matrices (see above under Matrix Holder Xa31TC).

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X36TC for casting Ludlow Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC24 and Screw a27TC23. The resultant Matrix Carrier for Ludlow Matrices was then identified as Xa27TC24.

This same symbol, Xa27TC24, describes a configuration of the Matrix Carrier which was used in four Matrix Holder situations:

- Holder X34TC with X31TC (American Cellular) in Carrier style 27TC
- Holder X35TC with X31TC (English Cellular) in Carrier style 27TC
- Holder X88TC (English Display) in Carrier style 27TC
- Holder X36TC (Ludlow) in Carrier style 27TC [this present situation]

3.5.7. Matrix Holder X87TC (Giant Caster Matrices)

The 1941/1942 Parts Price List indicates that Giant Caster matrices are cast nick-down. This requires changes not only to the Mold but also to the 79TC Type-Receiving Plate and 80TC Type-Receiving Shoe.

[No pictures available.]

There is no configuration of the style 26TC Matrix Carrier listed in the 1941 Parts Price List which adapts it for use with Matrix Holder X87TC.

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X87TC for casting Giant Caster Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC20. The resultant Matrix Carrier for Giant Caster Matrices was then identified as Xa27TC2.

3.5.8. Matrix Holder X88TC (English Display)

[No pictures available.]

Matrix Carrier style 27TC in its default configuration for use with Matrix Carrier X32TC (Monotype Display or Thompson Matrices) was furnished with Matrix Carrier Side Wall Wedge a27TC10. When this Matrix Carrier was to be used with Matrix Holder X88TC for casting English Display Matrices, it was furnished instead with Matrix Carrier Side Wall Wedge a27TC24 and Screw a27TC23. The resultant Matrix Carrier for English Display Matrices was then identified as Xa27TC24.

Note that this symbol, Xa26TC24, also identifies a configuration which was an "intermediate" configuration on the way to an alternative configuration of the style 26TC Matrix Carrier for use with Monotype Display / Thompson Matrices (see above under Matrix Holder X32TC) or Linotype/Intertype Matrices (see above under Matrix Holder Xa31TC).

This same symbol, Xa27TC24, describes a configuration of the Matrix Carrier which was used in four Matrix Holder situations:

- Holder X34TC with X31TC (American Cellular) in Carrier style 27TC
- Holder X35TC with X31TC (English Cellular) in Carrier style 27TC
- Holder X88TC (English Display) in Carrier style 27TC [this present situation]
- Holder X36TC (Ludlow) in Carrier style 27TC

3.5.9. Unidentified Matrix Holders

In the possession of CircuitousRoot; ex-Barco.

This would appear to be an incomplete and crudely botched style 26TC Matrix Carrier together with an as yet unidentified Matrix Holder.

[TO DO: photograph it]

4. Koike Matrix Carrier and Foundry Matrix Holder

This is a Matrix Carrier for the Koike Type-Caster, a Japanese development of the Thompson, fitted with a Matrix Holder for Foundry Matrices. This particular Matrix Carrier was the one used by Charles Broad in his Typefounders, Inc. (of Phoenix) operation. It is now in the possession of Skyline Type Foundry (as is Broad's extensive collection of "Antique" revival matrices). Broad's Koike caster was, unfortunately, scrapped long before Skyline acquired this Matrix Carrier/Holder.

The lever-operated "quick change" Matrix Holder is most interesting. (It would be especially advantageous in casting thousands of foundry-style matrices to fixed set widths, as would be common in Japanese and Chinese language typesetting.)

The adjustable left sidewall mechanism also differs from that of a Thompson Matrix Carrier.



Fig. 29:

My thanks to Schuyler Shipley of Skyline Type Foundry for permission to photograph this item and for his insights into its use. He is of course not responsible for the poor quality of my snapshots.



Fig. 30:

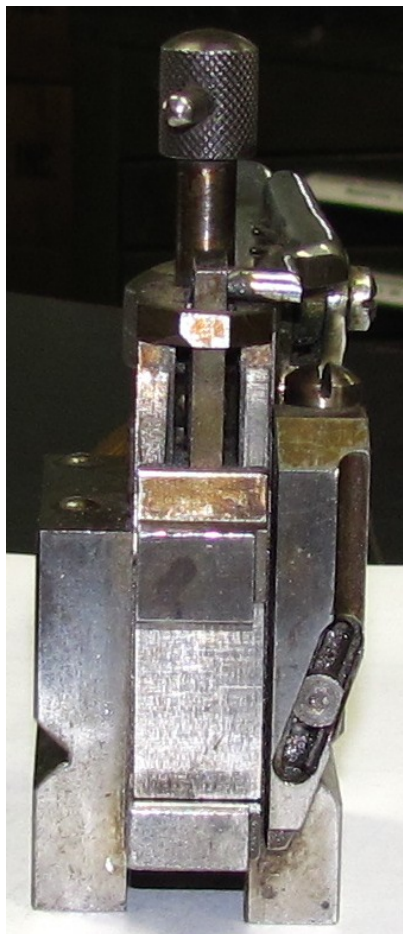


Fig. 31:

5. Matrix Holders and Depth-of-Drive

Each kind of Matrix has a particular depth-of-drive. Each style of Matrix Holder must be designed to accommodate a particular style of Matrix. However, the depth-of-drive of the Matrix does not affect the design or choice of Matrix Holder. In some situations, similar matrices with different depths-of-drive may be used in the same Matrix Holder (but of course with different Mold equipment).

More specifically:

American and English Monotype Display Matrices (depth: 0.050 inches) and Thompson Matrices (depth 0.043 inches) may both be used in Matrix Holder X32TC.

American Linotype Matrices have a depth-of-drive of 0.043 inches, and are used in Matrix Holder X31TC. English Linotype Matrices have a depth-of-drive of 0.075 inches. As the external dimensions of both American and English Linotype Matrices are identical, it would be possible to place an English Linotype Matrix in Matrix Holder X31TC. Whether either the Lanston or the English Monotype companies ever made Mold equipment to accommodate English Linotype Matrices is not presently known. (No known surviving Lanston Monotype literature mentions any such equipment.)

The Matrix Holders for both American Cellular (34TC) and English Cellular (35TC) Matrices are "sub-holders" which fit within Matrix Holder X31TC (normally the Linotype Matrix Holder). American Cellular Matrices have a depth-of-drive of 0.030, while English Cellular Matrices are 0.050.

QUESTION: Why, then, do they require different holders? Do the cellular holders use a centering pin?

In *Matlas*, Duensing lists the depth-of-drive of 4 1/2 point English Cellular Matrices as 0.030 (not 0.050). This is not relevant to the Thompson because it was designed and advertised to cast down to 5 point only.

Ludlow Matrices have a depth-of-drive of 0.153 inches. They require Matrix Holder 36TC, but this is due to their unusual form, not their depth-of-drive.

Note, however, that due to the very large Ludlow depth-of-drive, it is when changing to and from Ludlow equipment to verify that the adjustment of the Matrix-Carrier Lever is correct. Failure to do so can result in broken parts or squirts.

6. Open Questions

1. Did any of the three Thompson manufacturers (TTMC, LMMC, MCL) make Mold equipment for English Linotype and compatible matrices (0.075 depth-of-drive)?
[Update "Matrix Holders and Depth-of-Drive" section if so.]
2. Is Matrix Carrier style 26TC in fact the same as A-11-B, for sure?
3. Is Matrix Carrier style 27TC in fact the same as the "Special Adjustable Matrix Holder for Foundry Style Matrices," for sure?

Version 4. 2012-03-06.

By Dr. David M. MacMillan for www.CircuitousRoot.com

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