

PART II

Commercial Composition—Book Work

THE STATEMENT was made in the earlier part of this book that “the Linotype operator should be essentially a craftsman.” The reason for that assertion now becomes apparent. In this section the operator will observe many examples, appropriately illustrated, pointing out the proper methods of producing different classes of machine composition.

Like every other field of endeavor, where certain tasks appear almost impossible to accomplish, intricate work on the Linotype becomes very simple when it is understood. The thought must be borne in mind, however, that this work was compiled primarily for instruction purposes.

After Part I of the instruction has been mastered by the student, he should immediately concentrate his efforts upon obtaining a familiarity with the various type faces commonly in use in the composing rooms. Specimen books are available for this purpose, and the *Linotype News* furnishes a variety of instructive material in each issue.

The operator should understand the effective contrasts afforded by the capitals, lower case, small capitals, and italic capitals and lower case which make up the average body font of matrices.

The various styles of figures—old style, modern, and modernized—should also be carefully studied. The result of the study, as outlined above, will enable the operator to select the proper faces required for use when he is given a piece of copy to set without layout being specified.

The specific purpose of Part II is to show the man before the machine how to lay out various classes of composition, and to point out the kind of material to be used in the construction of the job, thereby obtaining the full measure of artistic typographical effect when the work is finished.

The first subject that is taken up for consideration in this section is spacing. Many pages could be written on this subject alone. Herewith, however, will be found the fundamental principles for correct spacing of Linotype composition.

Spacing and Justification

IN MANY composing rooms spacing is regarded by the printers as the particular part of the job. No excuse can be offered for poor spacing. Improper divisions of words will invariably be marked by the proofreader, and the operator who bears in mind that his judgment is not final in such matters will

strive to produce a neat piece of printing that is free from errors. Poor spacing, lines out in the proof, and troubles incident to tight lines are the result of carelessness, and in many offices an operator who attempts to "get by" with this kind of work is not tolerated. Do not attempt to facilitate justification at the expense of spacing.

Justification on the Linotype. Justification, or the spacing between the words in an assembled line, is automatically taken care of on the Linotype, provided, however, the operator has put sufficient material into the line for the justification mechanism to work with. Not all lines will at first be assembled with the correct amount and proportion of matrices and spacebands ready for the justifying process. A number of long words in a line cuts down the number of spacebands, thereby often making it necessary to insert thin spaces between the words, in addition to the spacebands, in order to fill the line sufficiently. A line should not be sent to the casting mechanism that is not full enough to justify. Such lines will not cast, thus causing the entire line to be left out. Neither should a line be sent in that is overset. Either of these irregularities may cause serious trouble and loss of time, or do damage to the machine or matrices.

The number of spacebands in a line determines almost altogether how well filled it must be in order to cast. If a line contains only a small number of spacebands it must be spaced tighter, by adding thin spaces uniformly between the words, so that it may justify properly in the vise jaws. Since each spaceband will spread approximately three points, five bands will spread fifteen points, or more than enough to take up one pica of the space remaining in the line.

Avoid Tight Lines. The operator should never send in a line that has stopped the star wheel. Such lines are overset and are longer than the space between the vise jaws. Crowding these lines into the vise jaws not only stops the machine at times, thereby slowing up production, but often causes squirts, which do damage both to the matrices and the machine.

Two spacebands should never be put together in a line, nor one on either end of a line.

Spacebands must be placed in the spaceband box and in the assembling elevator with the sleeve facing toward the right.

Spacing Out. When the end of a paragraph has been reached the remaining space should be filled with enough em and en spaces and spacebands to justify properly. Fill the line in the following order: last word, period, spaceband, em space, en space; spaceband, em, en, etc. Care should be taken not to get too many bands in the line on machines casting 42 picas. The use of more em spaces, in spacing out, will obviate this.

It should also be remembered that by using the em leader on the duplex rail the operator will not run short of em quads when quadding out a long line. The en leader in a bold-face font becomes a figure space when raised.

Indentation of Paragraphs. The amount of indentation of ordinary straight composition varies in different shops, and for different classes of work. However, the following general rules will be found in use in the majority of composing rooms:

In book work the customary indentation is one em of the size of face being used for the body matter of the book. The kind of face being used, and the amount of space between lines should govern the paragraph indentation. In many books, set 24 or 25 picas or wider, on a leaded slug, the paragraphs are indented 1 em or 1½ ems.

In commercial work, such as booklets and pamphlets, a good rule is to indent paragraphs one em space in all measures to and including 20 picas. In all measures of 21 picas to and including 25 picas, indent 1½ ems. All measures more than 25 picas, indent 2 ems. This is for plain paragraphs. When composition is set in 6 point or smaller, 20 picas or longer, indent 2 ems.

Depending upon the individual style of the publication, in newspaper composition, indent all single-column paragraphs one em; all matter double-column or wider, indent 2 ems. In newspaper advertisements, set the paragraphs flush or indent one em or more, as desired for typographical appearance. The book *Newspaper Designing* deals with this subject at length.

In many instances in book or commercial work, it is desirable to vary from the regular indentation, in order to obtain a desired typographical effect. This is a function of layout.

In composition where various type sizes are used together all paragraph indentions should align, irrespective of the size of the face. The regular indentation of the principal face used in the job should govern the indentation of all other sizes.

Rules for Correct Spacing. The same general rules apply to spacing when using the Linotype that apply when setting hand composition. Any desired spacing can easily be obtained in a line, or between words, with the ordinary machine equipment. The machine responds to the will of the operator. It is, therefore, entirely within the operator's control to produce good, poor, or indifferent typography.

The increasing number of fine books and high-grade jobs which are being completely set on the Linotype is conclusive proof of the quality of this method of composition—proof that the machine, in the hands of an operator who will use the same care and judgment that he would in setting individual type, can produce the very finest work, adhering to all the niceties of expert hand composition.

Spacing should be considered in three general divisions; that is:

- (a) Spacing between the characters or the words of the line;
- (b) Spacing between the lines, and
- (c) Spacing between the type masses and engravings, rules, or borders.

Spacing between Type Groups of the Line. Generally speaking, it is safe to state that the spacing between the type groups of the line should be *slight*. But this does not mean that the spacing in a thirty-point line should be equally as slight as the spacing in a six-point line; nor that the spacing used with an extended face should be equally as slight as that used with a condensed face of the same point-size and width of line; nor that the spacing used in a comparatively wide line should be equally as slight as that used in a comparatively narrow one of the same point-size and design of face. The word *slight* is used in a comparative sense. Any one or all of several things should be considered before the spacing to be used in a line is determined on; that is: the point-size of the face, the design of the face, and the width of the line. Good close word space in text sizes is generally considered to be the equivalent of three- or four-to-em space.

Linotype Spaces. Besides the regular space-matrices (em spaces, en spaces, figure spaces, and thin spaces) thinner spaces (hair spaces) are made. Thin spaces measure .0277, .031, .035, .0385, .0415 and .0484. Hair spaces, which do not have combination teeth and are inserted in the line by hand, are made in thicknesses of .0035, .007, .014 and .021.

Styles of Spacebands. Linotype spacebands are available in six styles; extra thin, thick, extra thick, wide range, special taper and Teletypesetter. Identification lines on the various styles of spacebands facilitate ready identification. They appear on the lower front edge, and are as follows: one line, thick; two lines, extra thin; three lines, extra thick; four lines, special taper; five lines, wide range and six lines, Teletypesetter.

EXTRA THIN. Minimum .028, Maximum .0943. For close spacing. Recommended for offices doing good book and job work and those using small faces. Not for use with two-letter display matrices.

THICK. Minimum .0375, Maximum .1035. For normal spacing of medium size faces where close spacing is not required.

EXTRA THICK. Minimum .046, Maximum .146. Used only for large display faces where wide spacing is required.

WIDE RANGE. Minimum .0345, Maximum .1194. Gives extreme flexibility of spacing. Thin enough for close spacing, with ample range of expansion for wide spacing. Not for use with two-letter display matrices.

SPECIAL TAPER. Minimum .0369, Maximum .1219. Similar to the wide range but a little thicker at both minimum and maximum points.

TELETYPESETTER. Minimum .0369, Maximum .1219. Same range as special taper but designed particularly for Teletypesetter equipped machines. Not for use with two-letter display matrices.

Here are contrasted two groups of Linotype composed lines:

(WRONG)

The instruction given in the book is the best that can be provided for the student of the Linotype. Careful application to the instruction is bound to prove satisfactory to the beginner. Study the lessons carefully and diligently and your efforts will

FIGURE 8

Eight Lines Loose

(RIGHT)

The instruction given in the book is the best that can be provided for the student of the Linotype. Careful application to the instruction is bound to prove satisfactory to the beginner. Study the lessons carefully and diligently and your efforts will be rewarded by im-

FIGURE 9

Eight Lines Compact

In Figure 8 the spacing used between the words of each line is too wide. Disfiguring "holes" and "rivers" are in evidence. The lines are comparatively difficult to read.

In Figure 9 the group-spacing is as it should be. No "holes" or "rivers" can be seen. The matter is much more attractive in appearance, and much easier to read. Moreover, half a line has been gained—an important matter in fine book and job composition.

The same kind of spacebands (extra thin) were used in the setting of both groups of lines. The closer spacing in Figure 9 was brought about by assembling a few more characters in the lines than were assembled in corresponding lines in Figure 8.

The point-size of a line should be considered before the spacing to be used in the line is determined on. Here are shown several lines of like width and design of face, but of different point-sizes. Each line, although spaced differently from each of the others, nevertheless is spaced correctly.

HOW IS ONE to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the a

HOW IS ONE to assess and evaluate a type face in terms of its esthetic desi

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Spacing of Various Body Sizes. Extra thin spacebands were purposely used in the composition of all four of these lines, to illustrate how, if need be, a similar set could be used for the entire range of Linotype faces. However, as has been suggested, extra thick or special taper spacebands should be used where a large number of lines of the larger sizes of display faces are being composed. The variation observed in the spacing of the lines was brought about by setting the twelve-point line less tightly (in the assembling elevator) than the six-point, and the eighteen-point line less tightly

than the twelve. The comparative looseness of the twelve- and eighteen-point lines automatically increased the spacing between the words by permitting the lower sections of the spacebands to be forced farther upward when the justification of the lines took place. Spacing between the words in a twenty-four-point line could be produced by the use of an extra thin spaceband and a thin-space matrix. The spacing between the words in the thirty-six-point line was produced by the use of an extra thin spaceband on each side of a thin-space matrix. Of course, still other combinations of spacing material could have been used in the larger lines with equally satisfactory results. But the combinations here shown suffice to illustrate how the proper spacing of all sizes of faces can be easily and quickly done on the Linotype.

Hand Spacing. While setting short measures it is frequently necessary to add extra space beside the spaceband, in order sufficiently to fill the line so that it will justify. This is done by inserting a thin-space matrix at the side of the spaceband. To maintain uniform spacing throughout the line, equal space should be added with each spaceband in the line. Run down the same number of thin spaces as there are spacebands and insert them one at a time alongside each spaceband.

Many instances will be encountered where the last word will not quite go in the line, possibly lacking only a letter or two. In this case, space matrices thinner than the spaceband should be substituted in a few places in the line, thus avoiding the extra wide spacing which would result if the entire word was carried over to the next line. Always avoid wide spacing wherever possible.

Spacing Always for Optical Effect. Correct spacing equalizes the areas of white between adjacent words or letters. Round or V-shaped letters need less separation than tall vertical letters.

Many wide tall letter forms show very complete lines

A thin space has been added between third and fourth words because of two adjacent tall letters. Between the first two words and the last two a thin space is used without a spaceband.

Letterspacing

IN LINOTYPE, as in other methods of composition, it is often desirable to interspace letters of certain words. For this purpose, in addition to the regular machine spaces, brass hair spaces are available. These correspond to copper and brass "thin" spaces in foundry type. Thin spaces for the Linotype are made in several standard thicknesses of from 2 points upward. Hair spaces grading in thickness from $\frac{1}{4}$ point to $1\frac{1}{2}$ point are made without com-

binations, to drop from the line into the box under the point of transfer from the first to second elevators. The regular machine spaces can be used for any larger spacing, so that any desired amount of space can easily be obtained. Hair spaces are inserted as desired, directly into the assembling elevator.

Letterspacing is often desirable in capital or small-capital lines of running heads over pages, titles, or subtitles, in announcements, invitations, menus, and like matter.

When letterspacing, thinner spaces should be added between open letter combinations such as A and T, than between solid letters such as H and E, as previously noted. This is a case where it is necessary for the operator to use his best judgment.

The example (Figure 10) illustrates the setting of an invitation in small capitals, letterspaced with $\frac{1}{2}$ -point and 1-point spaces.

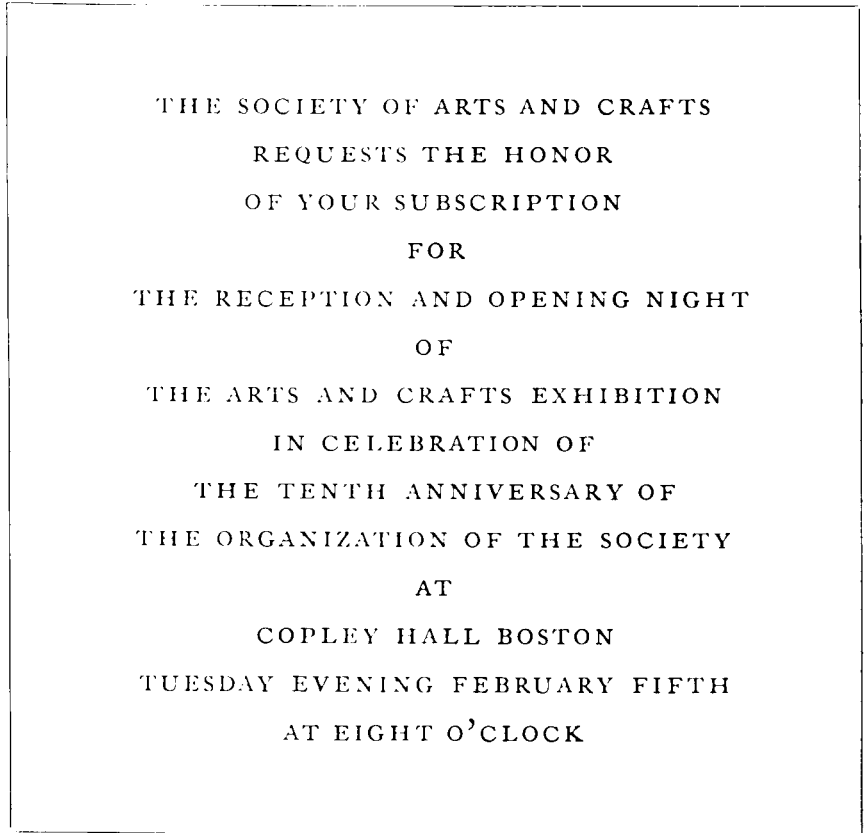


FIGURE 10
Letterspaced Small Capitals

Letterspacing Narrow Measure. Very frequently, when setting narrow measure straight composition, it is necessary to letterspace the words of a line to avoid wide spacing between the words. This will be frequently found necessary in setting matter around cuts. The entire line should be spaced uniformly—do not pick out a word or two at random for letterspacing. The following illustrates letterspacing in narrow-measure matter:

Much has been written concerning the necessity of keeping the Linotype machine in good order to obtain large output, but little has been said regarding the desirability of keeping the operator in good health. To secure the maximum

output the operator must be kept in good condition, as well as the machine. Most operators do not pay enough attention to the laws of health. Fast and accurate work at the Linotype keyboard is not simply a matter of knowing how

In the best typography, such letterspaced lines as the foregoing would be queried to the author for a possible alteration in copy to obviate every line blemished by poor spacing.

Note also that in certain languages, notably the German, letterspacing is used for the same emphasis that is obtained in English by italicizing.

Centering Headings

WHEN THE characters used in a heading do not fill the line, place an equal number of em and en spaces and spacebands on each side of the wording. Fill the space by using em space, en space, and spaceband, repeating in the same order until the estimated space is filled in the beginning of the line; next set the heading; then fill the space at the end of the line in the same manner as at the beginning of the line, but reversing the order, i.e., spaceband, em space, and en space, so that the spaceband will not come at the end of the line. Make sure that the same number of em and en spaces and spacebands are inserted on each side of the heading.

In centering short headings on a long measure, where many em spaces are required, fill the line as follows: two em spaces, spaceband, alternating until sufficient space is filled; following the heading push in on the duplex rails, and alternate spacebands and em-leader matrices. This will insure an adequate supply of spacing matrices.

Any discussion of centered lines, “flush left” or “flush right” lines must include mention of the definite advantages of the Linotype Self-Quadder.

The Linotype Hydraquadder

THE INTRODUCTION of the Linotype Quadder has brought about a new method of handling certain classes of composition. The Quadder does automatically some of the previous time-consuming operations.

Brief mention of the Linotype Quadder is made under several headings. Below is a brief description of the Linotype Hydraquadder.

The Linotype Hydraquadder is a device which performs the quadding and centering functions by hydraulic action. The vise jaws are moved in against the line of matrices by circulating hydraulic fluid to quad left, quad right or center, as desired. When the Hydraquadder is set for "regular," the machine functions with normal justification in the regular way.

It is available as a manual Hydraquadder where the operator selects the quadding function by turning a convenient knob, or as an electric Hydraquadder where the quadding function is selected by push button.

After setting the text of the line in the assembling elevator in the regular way, the operator indicates the desired quadding or centering by setting the control. Then the line is transferred by raising the assembling elevator, and further operations to center or quad the text on the slug are automatic. Thus, the process of counting and inserting spaces is eliminated.

Typographic Refinements

ITALIC HAND TYPE has many characters in which a portion of the letter overlaps and rests on the shoulder of adjoining characters. While the overlapping character in hand type serves to eliminate uneven spacing in italic words, the projection or kern is fragile and is frequently broken off by careless planing of the form or in printing. Linotype solves the problem of uneven spacing and objectionable kerns in italic by making logotypes of the most frequently used combinations of characters, as shown in the Baskerville exhibited below:

F P Ta Te To Tr Tu Tw Ty T Va Ve Vo V Wa We Wi Wo Wr W.
F P Ta Te To Tr Tu Tw Ty T Va Ve Vo V Wa We Wi Wo Wr W.

Ya Ye Yo Y Wh Th FA PA TA VA WA YA
Ya Ye Yo Y Wh Th FA PA TA VA WA YA

The logotype characters in this list have been made in the various point sizes of a wide range of popular Linotype faces, as indicated in the One-Line Specimen Book published by Mergenthaler Linotype Company.

This assortment of logotypes has been further augmented by logotypes of the lower case “f” combinations, roman and italic, as follows:

f f. f, f- fa fe fo fr fs ft fu fy ff ff. ff, ff- ffa ffe ffo ffr ffs ffu ffy
f f. f, f- fa fe fo fr fs ft fu fy ff ff. ff, ff- ffa ffe ffo ffr ffs ffu ffy

When used with care and discretion these “f” logotype characters will dress up Linotype composition with the best hand-set quality. The most frequently used vowel combinations can be run keyboard in the main or auxiliary magazines, for which layouts can be furnished.

When the beginner starts using “f” logotypes he will find it helpful to ring the combinations in the copy as a guide in setting. With a little practice, however, the eye will become trained to detect them as easily as the ordinary ligatures to which he has long been accustomed.

The faces in which the “f” logotypes are available are limited to the most important book and job families, as shown in the Specimen Book, which please consult before making a selection. By way of caution, the single “f”, which is the first character in the above list, should never be used except at the end of a word, as the long sweep of the curve will leave a wide gap between it and the next letter. When it is used as a final letter a thin space should follow instead of a spaceband, as in hand composition.

Pull final proof and have it read carefully.

(set with spacebands throughout)

Pull final proof and have it read carefully.

(thin space after final “f” improves spacing)

One-Letter Italic. In regular two-letter fonts the italic lower-case characters are combined with the roman on the same matrix, and both must therefore be of the same width. In many of the traditional faces, such as Baskerville, Bodoni, Caslon Old Face, and several others, the original companion italic is very lean and compact in comparison with the roman. Thus, the combination of the two faces on the same matrix made it necessary to widen and distort the italic, producing an effect not altogether pleasing to printers of discriminating taste.

In the following group of characters is shown a lower-case alphabet of *Recut Italic*, Special No. 5, and its complement of logotypes:

a b c d e f g h i j k l m n o p q r s t u v w x y z
f af aff ef eff fi fl if iff hf kf lf mf nf of off pf rf sf tf uf uff yf If Of Off
 f f. f, f- fa fe fo fr fs ft fu fy ff ff. ff, ff- ffa ffe ffo ffr ffs ffu ffy

By making the italic lower-case characters independent of the roman on separate matrices it is possible to preserve the traditional italic form of the

10-point slugs – and so on. The thickness of the liners used in the mold and knife block setting will control the leading in every instance.

Short Descenders. In some type face series, such as Excelsior, it is possible to cast a face of a given point size on a slug of smaller size. As an example: It is possible to cast 5½-point Ionic No. 5 on a 5-point slug; 6½-point on a 6-point slug, the purpose and advantage being the great saving in printing space.

The above is made possible by the substitution of characters that have short descenders, which thereby allow this space-saving feature. The characters required for substitution, which have these short descenders, are the following: Lower-case g, j, p, q, and y, and in some cases the fractions, dollar mark, commercial @, comma, semicolon, parentheses, and cap Q. The example following shows 5½-point Excelsior, with Bold-Face No. 2 set first on a 5-point slug and then on a 5½-point slug:

Quite a great deal has been written regarding the necessity of keeping the Linotype machine in good order to obtain large output, but little has been said regarding the desirability of keeping the operator in good health. To secure maximum output the operator must be kept in good condition, as well as the machine. Most operators do not pay enough attention to the laws of

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Matrix Slides Cast on Leaded or Solid Slugs. Matrix slides, used for the production of rules, dashes, or borders, can be cast on the Linotype either solid or leaded, as required. But as most matrix slides are made to *center* the face, or design, upon the smallest possible body slug, the face or design, will be above the center of any slug thicker than that indicated by the marking on the slide.

Spacing Running Heads. Accurate spacing between the headings and rules and between the rules and the text in book pages can easily be obtained by casting them on leaded slugs. This eliminates possible error in spacing, by maintaining a uniformity throughout the book, and at the same time facilitates the work of makeup. An example follows:

TRAINING FOR CITIZENSHIP

any nation of Europe to attempt to increase its territories on this continent. This is called the "Monroe Doctrine." It has always been our policy to cultivate the most friendly relations with the South-American republics, and to extend and cement their friendship a Pan-American bureau was established in

In the above illustration, the heading line was set in 10-point capitals, on a 12-point slug. The rule under the heading is No. 403, cast on an 8-point slug. No leads are used in the makeup.

Double or Multiple Slug Composition

LINOTYPES ARE MADE to cast slugs with a maximum length of either 30 picas on standard models and 42 picas on other models. Since very little of the usual composition is wider than 42 picas, this wide-measure machine will be found valuable for even the small shop.

Doubling Up Slugs. To set matter wider than the maximum capacity of any machine, it is necessary to cast each line on two or more slugs. In this manner, matter can be set to any desired width. Divide the measure to be set by two, or into any number of equal parts to bring one part within the capacity of the machine. As an example, a job of 48 picas should be set on two 24-pica slugs or a 78-pica measure should be set on three 26-pica slugs. Set the matter straight across from the first slug to the second, and lay the ends of the slugs together, making one continuous line. The break in the word, coming at the end of the first slug and at the beginning of the second slug, should be made between any letters that will give good spacing. It is not necessary to divide on syllables, for when the slugs are joined no break in the word will be apparent.

Uniformity in Spacing of Lines. The spacing on the first and second slugs should be uniform. To obtain this, it will often be necessary to recast the first slug, because there is no way of predetermining just how the words will be spaced on the second slug until after the first has been set. However, it is good practice to hold the line of matrices of the first section in the first elevator, after the cast, until the second section has been set. Then the operator can tell with a reasonable degree of accuracy, judging by the number of spacebands in both sections and the fulness of each line, whether the spacing will be uniform or not. Should there be a difference, one or more matrices, as needed, can be added to or removed from the line in the jaws of the first elevator, and the line recast. By this method it will never be necessary to reset lines to obtain good spacing.

The Face Must Not Overhang on the Slug. Before setting multiple-slug composition the slug should be examined to see that the face does not overhang the end. A shoulder should not appear on the slug outside of the face. This would cause a line of white space to show in the composition at the point where the slugs join. The slugs must be accurately measured before starting the doubled-up work. Uneven slugs will cause the lines to show a break in alignment at the joining point.

The slugs must also be the same height at both ends. Uneven height will cause trouble in press make-ready, the letter on the end of one slug being higher than the one on the end of the other.

The following illustration shows the break as it appears before the slugs are butted together:

In setting twin slug composition line out of the stick and lay it in important that you keep careful count of your place, breaking the word on the end of the first slug and ending the line with a word or syllable on the second slug. Many operators to help them keep their place. A good method is to lay a reglet or lead, which is longer than the slug, in the stick. Move the reglet each four lines. A glance is sufficient to tell whether the first or second section slug is being composed.

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Separate Columns Before Taking a Proof. Before taking the proof to be read, separate the columns of the multiple slugs with a 12-point slug. This will facilitate correcting by showing the break between the slugs. Following is an example of how the lines appear after the two sections have been butted together:

In setting twin slug composition it is not necessary to take each line out of the stick and lay it in position as it is set. However, it is important that you keep careful count of your place, breaking the word on the end of the first slug and ending the line with a word or syllable on the second slug. Many stunts or devices are employed by operators to help them keep their place. A good method is to lay a reglet or lead, which is longer than the slug, in the stick. Move the reglet each four lines. A glance is sufficient to tell whether the first or second section slug is being composed.

The method of setting extra wide composition explained above is the one most commonly used. However, where the break is continuous in a column, the supercritical eye can detect a small river of white through the center of the page. For an extra good job, where the slight line of white would be objectionable, the method as illustrated in Figure 11, commonly called the "stagger method," will be found better than the first illustration.

Much has been written regarding Linotype machine in good order. It has been said regarding the desirability of keeping the operator in good health. To secure the maximum output the operator must be kept in good condition, as well as the machine. Most operators do not pay enough attention to the laws of health. Fast and accurate work at the Linotype keyboard is not simply a matter of knowing how to finger the keys properly, but also, to a certain extent, a question of good physical condition. The amount of muscular effort required to operate a Linotype is not very great, but it is an occupation calling for a clear brain and steady nerves, and anything which promotes these conduces to speed and accuracy. Good health is an asset to any Linotype operator, and the observance of a few common-sense rules will aid in maintaining it. Much has been written regarding the necessity of keepi

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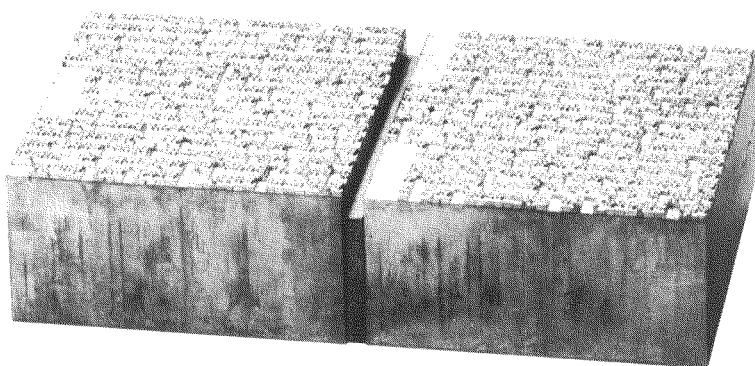


FIGURE 11

This Illustration Shows Type Set by the "Stagger Method," before Sawing Off the Extra Pica on Half of the Slugs

To set a job as illustrated it is merely necessary to set the machine measure six points wider than the half measure of the job, and drop enough spaces to equal one pica on the front of one slug in each pair. The extra spaces should be alternated from one section to the other at frequent intervals. By changing each four or six lines, the continuous break will be eliminated. It is necessary to saw off the extra pica of space from half of the slugs, and bring the two sections together.

This Method Best on Large Faces. When setting extra wide measure of large faces, 18-point up, it will be found best to dovetail the composition, as explained above, except that the variation should be made on each successive line. On account of the width of the characters on large faces, better or more uniform spacing can be obtained in this manner, because the operator can shift the break to suit the spacing of each particular pair of lines.

The Wide-Measure Machine. A 42-pica machine will be found invaluable for use in setting many legal forms, insurance applications, and other composition over 30 picas in length.

The use of this machine does away with the doubling up of slugs of all measures up to 42 picas in width. This machine also sets all the smaller measures, as well as the longer ones up to and including 42 picas.

Thirty-five spacebands are required for use on the longer measures. The extra channel of e's also is helpful on the long lines.

Lining Up Variable Columns

WHEN A LINE-UP is desired in two or more columns, any measure, and the columns contain words of varying length, it is necessary to set each variable column on separate slugs, as shown in the illustration following:

Alabama	C. Hunter	Mobile	16	97
Arizona	H. Aughtry	Phoenix	16	84
Arkansas	C. B. Wells	Little Rock	21	95
Alberta	C. A. Voight	Calgary	21	95
California-Nevada	G. E. Holohan	Los Angeles	19	88
Colorado-New Mexico	W. M. Bowan	Denver	21	99
Connecticut	D. D. Gross	Hartford	21	99
Delaware	L. B. Beauchamp	Harrington	21	90
Eastern Canada	Stuart Boa	Montreal	22	94

The above illustration was set in three columns. The first column, starting with "Alabama," ends in front of "C. Hunter." The second slug ends in front of the word "Mobile." The figures are contained in the third column of slugs, being cast on the same body size, and therefore easily aligned by using the same em spaces in each line.

When it is desired to align words in two or more columns, the words in each column should be set on separate slugs. The slugs are then sawed so as to leave approximately the same spacing between columns, as illustrated:

California	Georgia	Minnesota	Oregon
Connecticut	Illinois	Michigan	South Dakota
Delaware	Indiana	Nebraska	Wisconsin
Florida	Kentucky	New York	Washington

Setting Poetry

IN SETTING poetry, the printer has a definite opportunity to aid the reader in comprehending the thought contained therein. The poet expresses his ideas in language that implies "between the lines," as it were, meanings that the actual words can not convey without the aid of imagination on the part of the reader, and his imagination may be stimulated or quickened by the printer's devices for emphasizing or attracting attention.

The indentation of lines of poetry is sometimes a puzzling matter for the inexperienced operator, unless he is given printed copy or carefully prepared manuscript in which the line indentions are clearly indicated. There are few rules which govern the subject, and even these are sometimes ignored in practice.

If the measure will accommodate each line of verse, the composition will be very much simplified. The first consideration will be to indent all lines so

that the general body of the poem will appear approximately in the middle of the page or column. When the lines vary a great deal in length, some calculation is needed to get the right indention without going over them the second time. The *average* line should be set first and the indention of the others made to accord with this. In this case some lines will be set a little to the left of the center, while others will be set a little to the right.

Indention of poetry is made with em spaces. The variations in indention are also graduated by ems, usually one em, but sometimes two, three, or more, according to the relative length of the lines and the size of the face which is being used.

Lines which rhyme with each other are always indented the same.

One of the commonest forms of verse is that in which the rhyme is in the alternating lines, or the second and fourth lines. In this case the second line of each is indented one em beyond the first. If the lines are long and the type small the indentions may be two ems.

When over the fair fame of friend or foe
 The shadow of disgrace shall fall; instead
 Of words of blame, or proof of so and so,
 Let something good be said.

In many cases, however, rhymes are set without varying the indention, to conform to the typographical effect of some other part of a job.

When the rhyme follows at certain intervals, the lines that rhyme are indented alike.

As up and down the world they move,
 Each one in his accustomed groove
 And at a measured pace,
 They seldom hear the singing spheres
 That carol sweetly through the years
 For all the human race.
 They shuffle stolidly ahead,
 Nor glance to left or right,
 With thoughts for only food and bed
 To get them through the night.

Blank Verse. In blank verse the indention of lines is uniform, the only consideration being to indent the lines so that the general group will appear to be centered on the page.

A uniform indention is given to poems in which the rhyme is in the two adjoining lines:

Ah, the click of the flint-locks is not half so divine
 As the click of the types as they fall into line,
 The audible step of unfaltering feet
 To a mightier tune than our bosoms can beat.

When one or more short lines end a stanza, and have no direct rhyme connection with preceding lines, they should be indented to appear in the center of the body mass.

Somewhat back from the village street
 Stands the old-fashioned country-seat.
 Across its antique portico
 Tall poplar-trees their shadows throw.
 And from its station in the hall
 An ancient timepiece says to all,—
 “Forever—never!
 Never—forever!”

Over-running Lines. When a line is too long to go into the page width, the surplus words are carried over to the next line; to avoid confusion, this run-over is indented differently from the regular line commencing with a capital, usually two ems more than any other indention:

Who the youth was, what his name was, where the
 place from which he came was,
 Who had brought him from the battle, and had
 left him at our door,
 He could not speak to tell us; but 'twas one of our
 brave fellows,
 As the homespun plainly showed us which the
 dying soldier wore.

Center the Poem. If the Linotype operator is given discretion in setting poetry, care should be taken to regulate the length of line and indentions so that lines will not run over into extra lines unnecessarily; yet, when the measure is narrow it is better to run over an occasional long line rather than to place the whole poem out of center on the page.

Running Title. This is one line in a page of poetry that cannot be changed with safety; neither it nor the folio at the end of the line should be moved either to the right or to the left to make the body of an irregularly indented mass of poetry seem in the center of the page. The folios are often the only safe guide the pressman has in making his register when he prints the sheet on the reverse side. If the folios are out of place, it is probable that the pages will be out of register.

Quotation Marks in Lines of Poetry. In all stanzas put the quotation marks in the space made by indention, so that the first letters of each verse shall align vertically as they would align if the quotes were not used. Do not allow the quotation marks to make irregular vertical lining of capitals. The quotation marks are not integral parts of the sentence, and when they are treated as if they were, the intent of the rhyming indention is obscure. (See page 128 table spaces.)

"Curses on him!" quoth false Sextus
 "Will not the villain drown?
 But for this stay, ere close of day
 We should have sacked the town."
 "Heaven help him," quoth Lars Porsena,
 "And bring him safe to shore;
 For such a gallant feat of arms
 Was never seen before."

Setting Poetry Consisting of Short Lines. Much time can be saved by setting the machine measure shorter when setting a very short poem on a comparatively long slug. First, center the average line to find the correct indention, then measure the indention in picas. Set the assembler slide and the left vise jaw to the indention desired. The vise jaw will automatically blank out the first part of the line.

The day ends,
 The task is done.
 Peace attends
 The setting sun.

The Linotype Hydraquadder described on page 42, is an efficient aid to the economical production of poetry.

Decorative Type and Border. A poem may very appropriately be set in all italic, either in plain or decorative type, when some special sentiment or emphasis is desired. Frequently a border of suitable design assists in the pleasing treatment of a short poem.

Making Up Pages of Poetry. The makeup of poetry pages is always difficult when the stanzas are unequal. Division of a stanza between its rhymed lines, or after its first line, or before the last line, are faults to be avoided by over-running and by increasing or decreasing the blanks in previous pages. These, however, are at best troublesome expedients. Fixed rules for the prevention of these irregularities are entirely impracticable. The operator should study the makeup of poems in good editions of standard authors. Always cast a blank slug between stanzas.

Flights of Names

WHEN A NUMBER of names are to be set that are too short to look well if arranged in columns, and it is desired that they be displayed more advantageously than would be the case were they to be run in, it is a good plan to set the names in "flights," in this manner:

EDITH CURRY
 FRED GRANT
 ANNA LAYER
 EDNA MARTZ
 ROY WILSON

It is possible to set such groups quickly and make the indention proportionate on each line, and have the whole group fill the column, by observing the following:

Set the last name first, on the right end of the slug; divide the amount of indention by the number of names, exclusive of the name set, which will indicate the ratio of indention and thus make possible the setting of a "flight" of names with perfect symmetry. In preceding example the name Roy Wilson is set, thus:

ROY WILSON

The indention of this slug is found to be, let us say, 22 em spaces, which number, divided by the number of names which remain, four, shows the indention required on each remaining slug, with the first line set flush. Example: 22 ems divided by four equals 5½ ems, the amount to add for each step in the flight.

Cut-in Side-Heads

FREQUENTLY, in certain classes of work, it is desired to use cut-in side-heads. The face for the side-head is usually the bold of the same font as the body face of the text matter, or a size smaller. The headings may be used at the beginning of a paragraph, or two or three lines from the beginning.

The headings should be set first, the shortest length consistent with good appearance. If the heading is to be used at the beginning of the paragraph, sufficient space must then be left on the first lines of the paragraph to permit cutting the slugs and inserting the headings. This is accomplished either by setting the left vise jaw to the desired width, or by dropping sufficient em spaces on the left of the lines to accommodate the heading lines. The latter method of indention is preferable in most cases because no machine changes are necessary. Space should be left on one more line in the text than the equivalent of the heading. This will allow white space between the heading and the text matter. Approximately the same amount of white space should be left between the end of heading lines and the text as is left below the heading.

If the heading is to be cut in the body matter, first set two or three full-length lines. Then indent two more lines than the equivalent of the heading.

Sawing of the Lines. When sawing in the heading lines, first saw them to whatever measure is necessary, in even ems or even fractions, for the heading. Then set the saw gauge to the full measure of the paragraph in which the heading is to be cut in. Place the heading slugs in the saw gauge and butt the slugs which are to come opposite them against the heading

slugs. Then, when the slugs are sawed, they will be justified to the exact measure.

The following example shows how the completed text should appear:

England's Lumber Supply Great Britain does not intend in the future to be dependent upon overseas sources for her supply of lumber. A number of expert Canadian lumbermen have engaged in the work of establishing a forest station on scientific lines, and the Royal Scottish Agricultural Society is pressing the Government to proceed with the establishment of the promised Board of Agriculture for the Development of Forestry in Scotland. The annual value of timber imports before the war was about £40,000,000, and between eighty and ninety per cent of it consisted of coniferous, or soft, woods, the majority of which could be grown in Britain.

English orthography is not easily learned, because it has so many different ways of representing the same sound. We are not intent upon the cause of apparently arbitrary and seemingly needless differences, but upon the value of rules as aids in learning how to spell. Notwithstanding the labors of many scholars to secure simplification, which have been practically continuous now for centuries, English spelling has remained, in general, but little affected by any of the proposed systems of reform. It is this established body of usage, which must be preserved for the present at least, that must be learned by practical men, especially those who print what others write, and are expected to correct errors in spelling, whether in copy or not.—*F. Horace Teall.*

Rules for Spelling

Initial Letters

QUITE OFTEN it is desirable to embellish certain pieces of composition with initial letters. Many styles of these initials are available to the present typographer, and any of them can be used with Linotype composition. Four kinds of initials are commonly used: Linotype initials cast to overhang from the Linotype slugs, Linotype-cast characters of the various display sizes to be cut in, foundry-cast type or decorative letters, and electrotype decorative initials in either one- or two-color units.

Much study and thought are required for the proper use of initials. They must be made to look as though they are a part of the matter which they complement—not as an afterthought. A page often may be made a pleasing piece of work by the addition of the right initial. It may be utterly defaced, also, by the selection of an improper initial.

Care in Selecting Initial. If a decorative initial is used, it should be of a design appropriate to the matter set, and must also harmonize with the face used for the text. A heavy, bold character, of elaborate design, should not be chosen to go with a plain, light-faced letter. On the other hand, a light-faced, plain initial would not harmonize with a page of bold-faced or ornate

characters. It is in good taste to use an initial of a larger size of the same family in which the text is set. Care must be taken not to use a modern letter for an initial with an old style face, or an old style with a modern.

Usually, capitals should be used for the first few letters or words immediately following the initial. And the initial should extend from the top of the capital line to the bottom of the face of the final aligning slug used in immediate association with the initial. Very frequently small capitals, instead of capitals, may be used for the first few letters or words. When the paragraph begins with a proper name (as, for example, the name of a person, corporation, or society) the entire name is set in capitals, or small capitals.

Uniformity of White Space. The white space on the side and at the bottom of the initial should be uniform and not too wide, otherwise the entire effect will be spoiled. A general custom is to set the first line flush against the initial, and drop an extra en space for the succeeding lines. However, the space below the initial should govern that at the side.

When using the letters F, T, P, V, W, or Y as initials, the type may properly be run flush against the letter, because of the counter, which allows sufficient white space between the face of the initial and the adjacent character. This depends, however, upon the style of the letter used, and is a case where the best judgment must be used, in order to get a proper typographical effect.

Mortising of Initials. As there would be a wide gap between the letters A and L when used as initials, and the balance of the letters forming the first word of the paragraph, it is necessary to mortise these letters, to allow the second letter of the first word to set close to the initial. It is likewise necessary to mortise other letters in some fonts, such as B, R, and letters where the top alignment is considerably to the left of the bottom alignment.

Foundry-cast initials having a shoulder of white at the side of the letter should be sawed down as close to the face as possible. Likewise, it is necessary to saw off the bottom shoulder so the initial will fit in the line space, and align with the bottom of the face in the text which comes opposite to it. Initials having a serif on the left which projects past the body of the letter should be undersawed, allowing the serif to project a little into the margin of the page, in order to avoid the appearance of the initial being indented. Likewise, letters having a rounded side on the left should be undersawed to make them fit properly.

In order to put initial letters in Linotype composition it is necessary for the operator to put enough blank space on the slug so that it can be sawed off and the initial inserted. This is accomplished by putting in sufficient em and en spaces to equal the thickness of the initial to be inserted. In case the regular em and en or thin spaces cannot be made to equal the thickness of the initial, use hair spaces or one of the letter matrices from the magazine to get the desired blank space. By trying various matrices you will find almost

any thickness desired. These matrices should be placed at the beginning of the line so the character will be cut off the slug by the saw when the initial is being cut in.

Following are a few examples of initial letters, showing the white space around the character. Other examples may be noted in various illustrations throughout this book.

THE HIGH INITIAL, followed by capitals or small capitals, as here, is an alternative to the two- or three-line initial, its use being governed by the general character of the page.

(12-Point Baskerville, 2-point leaded;
16-Point Baskerville Initial)

TYPOGRAPHERS in the early days of the art frequently used a high initial, followed by a single capital and then by small capitals. This usage is rarely met with today in other than period work.

(12-Point Janson, 2-point-leaded;
21-Point Caslon Old Face Initial)

WHEREAS and other introductory words as used in legal composition call for a treatment like this one, the high initial being set flush with the body matter. In the better grade of work, it is well to extend initials like **W**, **V** or **Y** into the margin several points to reduce the gap of white space caused by the angled letter.

(12-Point Garamond No. 3, 2-point leaded;
24-Point Garamond No. 3 Initial)

THE TWO-LINE initial gives the conventional “note of accent” at the beginning of an article or important subdivision of copy. It is the form most commonly used for straight composition.

(12-Point Fairfield, 1-point leaded;
36-Point Garamond No. 3 Initial)

THE THREE-LINE initial gives further emphasis and may be the chief note of accent on the page. Old style initials should be used with old style types and modern with modern types.

(14-Point Caslon Old Face, 3-point leaded;
60-Point Caslon Old Face Initial)

BODONI in his later work used the high initial in this fashion, with a deep indentation in the first paragraph. As a general rule this treatment best suits a modern face.

(14-Point Bodoni, 2-point leaded;
24-Point Bodoni Initial)

THE SWASH capital, however, if the copy permits, may be used in the Bodoni manner. Caslon’s swash letters in their original form are particularly good for this purpose.

(12-Point Caslon No. 137, 2-point leaded;
24-Point Caslon Old Face Swash Initial)

LETTERS like L and T require special treatment in accordance with their uneven shape. With initial T lines of copy may, if desired, be carried in under the crossbar to avoid too great white space. (See also the next specimen.)

(12-Point Granjon, 2-point leaded; with
72-Point Granjon Initial)

THE T, V, W and Y may be treated in this fashion, overhanging into the margin, to avoid too great white space at the left. The type should line with the stem or point.

(11½-Point Caslon Old Face, on 12 point;
48-Point Caslon Old Face Initial)

The Initial Chart. In the composing room, where the successive issues of a publication are produced on the Linotype, it is a good plan to determine the width of each initial in the series and to print the results on small cards. There are two good features about the use of such cards by the operator: Time is saved by rendering it unnecessary for him to measure the width of an initial each time it is to be used; and the initial font of hand type will not run low because many of its letters are out on the various machines.

An indication of composition instructions for two such charts is given below. One shows em, en, and hair spaces in use, and the other the use of various letters to obtain the proportion of space to be allowed for the initials. These examples were intended for use with 10-point Century Expanded, with an appropriate 3-line initial.

INITIAL CHART ILLUSTRATED

A — First line — em and en
Second and third lines — 3 ems
B — Two ems and thin
Two ems, en, and thin
C — Two ems and a hair
Two ems, en, and a hair
D — Two ems, thin, and a hair
Two ems, en, thin, and a hair
E — Two ems and thin
Two ems, en, and thin
F — Two ems and a hair
Second and third lines, same

A — First line — em and en
Second and third lines — 3 ems
B — Two ems and thin
Two ems, en, and thin
C — One em, en, thin, and t
Two ems, thin, and t
D — Two ems and r
Two ems, en, and r
E — Two ems and thin
Two ems, en, and thin
F — One em, en, thin, and fi
Second and third lines, same

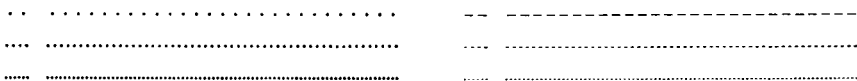
Measure the Initial. To determine the correct amount of matrices to drop as an allowance for the initial, it is best to lay the initial on some smooth surface, such as a slug, on the copyholder, place the matrices alongside of the initial and feel across from one to the other. Exact measurements can be obtained in this way.

When sawing or cutting the slugs to insert the initial, place the initial in the gauge with the slugs, butting the slugs snugly against the initial. This will insure exact justification.

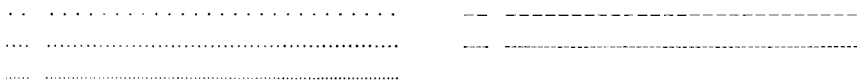
Linotype Leaders—Their Proper Use

BEFORE THE operator starts a piece of composition which involves the use of leaders of any description, he should familiarize himself with the different styles. A careful check should be made of those running in the machine, to see that they are in alignment, are of the same style, and will give the desired results. Linotype's variety of leader styles include:

Regular Leaders vary in weight of dot or stroke to match the face and point size with which they are to be used. They are punched to cast type high and supplied in dot or hyphen style in two, four or six dots or strokes to the em. (Matrices carry no special marking.)



Universal Leaders have a uniform weight of dot or stroke in 4- to 14-point sizes, regardless of the type face with which they are to be used. Primarily intended for book and jobbing work, they are punched .003 shallower than type high so as not to punch through in printing. Supplied in dot or hyphen style—the dot in two, four or six dots to the em, the hyphen in two or four strokes to the em. (The matrices are marked UL.)



Thin Leaders are used with either the Regular or Universal style (four dots or strokes to em) for close justification, when one spaceband is used in the line. Supplied in quarter-em widths in 8- to 14-point sizes. (Matrices in universal style are punched .003 shallow and marked UL; no mark in regular style.)



Dash Leaders are en- and em-width hairline dashes (.004 in weight) punched to cast type high and present a continuous, unbroken line. Essential for tabular work, where dash of figure width is necessary. (The matrices are marked DL.)

Leader Aligning Dashes cast a continuous, unbroken line and are exceptionally useful in jobbing work. Punched to cast type high and supplied in four widths: 2, 3, 6 and 12 points, in all standard alignments. Available in four weights of line: hairline .004, half-point .007, one-point .014, or two point .028. (The matrices are marked LAD.)

Jobbing Leaders have a uniform weight of dot or stroke in all point sizes. Punched duplicate character. Dot style is supplied as single dot () on 12-point set width and punched .003 shallower than type high to minimize punching through while the hyphen style is made in wide or narrow strokes, as preferred: one or two wide strokes (-, --) or one, two or four narrow strokes (., ..,). (Matrices are marked with Character No. and 12△354.) (See specimens of the dot and hyphen styles for selection. In ordering, indicate preference for narrow or wide strokes by specifying character and triangle numbers.)

Newspaper Leaders are described on page 151.

If figures are being used with a font of matrices other than those regularly made for that font, so state in your order, giving the name, point size and triangle number of the figures, or enclose a sample.

In ordering new leaders to match others already in use with these figures, send one of the old leaders. If an entirely new lot of leaders is wanted, give the exact name, point size and triangle number of face with which the leaders are to be used, and also give the name and size of the figures.

Open Leader Work

A NEAT TYPOGRAPHICAL effect can be given to the appearance of a leader job in which the lines are widely spaced by setting it with open leaders, or with the leaders spread apart. The regular en-dot leader, the jobbing leader, the period, or the hyphen may be used in this style of leader work.

The leaders are opened up by dropping em spaces between the leader matrices. The space between all the leaders in each job should be the same, but may vary in different jobs.

Let the first leader in the line come near the last word in the line, but not against it. The amount of space to be used between leaders should vary in different jobs, according to the size face being used and the space between the lines. Lines which are to be spaced wide apart may have more space between the leaders than those where the lines come close together. An ideal arrangement is to have a little less space between the leaders horizontally than is used between them vertically.

Two Styles for Open Leaders. There are two styles in common use for the open leaders. One is to align all the leaders in a column. This is accomplished by always having the same amount of matrices following the last leader, and the same space between the leaders.

The following example, using en-dot leaders for the open-leader work, illustrates this style:

London (<i>Upright</i>)	. . . . .	\$100.00
London (<i>Console</i>)	. . . . .	135.00
Heppelwhite	. . . . .	145.00

Another method is where the leaders are staggered and appear in diagonal rows, the leaders in three lines forming a diamond. This is accomplished by placing half the amount of space used between leaders, less half the thickness of the leader, following the last leader of each alternate line. Use en leaders, either dot or hyphen, for this method, on account of the necessity of dropping the half thickness space—which in this instance is a regular thin-space matrix.

London (<i>Upright</i>)	. . . . .	\$100.00
London (<i>Console</i>)	. . . . .	135.00
Heppelwhite	. . . . .	145.00

When open-leader work is desired in composition having a variable word on each end of the slug, the leaders should align vertically. This can easily be accomplished by setting the first name or column and leadering all the way to the end of the slug. Then set the last name or column and cut the slugs in each line individually to whatever measure will allow the leaders to end near the column or name.

Number of Type Lines Affected. An inspection of this sheet discloses just how many type lines are affected by the cut, and the figures indicate the number of spaces which it will be necessary to drop on each line to allow space for the illustration. The outside edge of the figures indicates em spaces, between the figures the en spaces, and should the line cross through the center of a figure or leader, a thin space would be used to obtain correct length. To obtain perfect results hair spaces should be available for use for letterspacing.

When completed, the type page will have the appearance shown in Figure 13. The job should then be proofread and corrected.

Approved composing-room practice calls for the use of original engravings to be unmounted and placed on the blank portion of the slugs which have been already cast as shown in Figure 13. If mounted cuts are used, the base of the cut should be sawed down so it will be within the margin which will surround the illustration, but need not be sawed entirely up to the type face.

The slugs may then be sawed to justified measure, butting directly against

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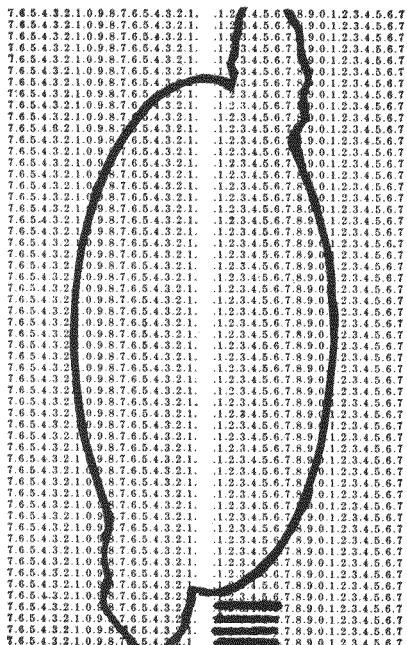


FIGURE 12
Showing Layout Sheet with Outline around
Illustration

the base of the cut, and leaving whatever amount of shoulder is necessary to fill from the type to the cut. (Figure 14.)

Linotype "run-around" composition possesses many advantages over movable type matter of this class. With individual type characters to set around irregular-shaped plates, it is a most tedious proposition to space out,

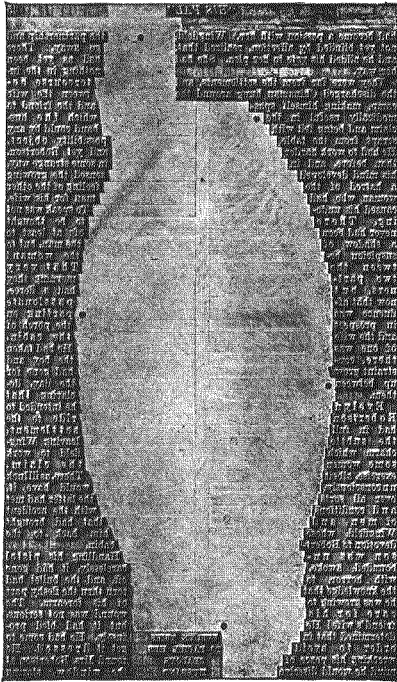


FIGURE 13
Showing Single Slugs Spaced to Size

and to prevent single letters from dropping out. Patience is required by the stoneman, as well, in locking up the forms. With Linotype composition of this kind, each line is one solid unit, and the entire form locks solidly in the chase, ready to print.

The following method of running around cuts is used in the composing room of one of the largest magazine publishing houses:

The copy for the story, when sent to the printer, contains a specification as to the number of pages it is to occupy when it is set up. This copy also has what are termed optional "fills" and "cuts," meaning matter that may be left in or taken out, at the option of the printer. These are marked with crayon pencils of different colors, for the purpose of distinguishing them.

The story is then typed, each line containing a certain number of characters, which have been previously determined, equaling the number of pica ems of the measure of the column. No matter where these typewritten lines end, whether it is in the middle of a word, or on one letter, the typist stops after the requisite number of characters in the line.



FIGURE 14
The Completed Page

A standard layout sheet which shows the number of lines to the page and the number of characters to the line (shown in machine ems of the text face) is then used. On this sheet is marked the headings, captions, and initial letters. The cuts are drawn in outline, allowing the necessary white space around them.

The next step is to determine the number of characters to go into the space allotted to the story. This is accomplished by multiplying the number of characters in a line by the number of lines on the page and the number of pages. If the story is too long, some of the "cuts" are omitted. The copy is then given to the operator, who follows the layout for each page.

Justifying Type in Mortises

MANY ODD-SHAPED mortises are used in newspaper and magazine advertisements, and it is often difficult to justify single types so that the letters will not drop out or the spaces work up. When Linotype slugs are used in these mortises, it is merely necessary to wedge them with leads or slugs at a few advantageous points. The slugs, being in one solid unit, are easily held in place, eliminating the possibility of loose letters or spaces.

Any large or irregular-shaped mortise can be quickly filled by pouring into the crevices molten metal taken from the melting pot of a Linotype.

The ladle which is used for the pouring of the metal should be submerged in the pot for a moment. This metal will not adhere to the base, nor to regular foundry type, so there can be no trouble in "break-up" or distribution.

Of course, the galley on which the mortise is arranged should be laid flat upon a stone or table when the metal is poured into the crevices.

Lining Up Roman Numerals or Other Letters

ALTHOUGH THE lining up of roman numerals or other letters at the beginning of lines may appear to some as difficult, it is an easy task on the Linotype, once the method of procedure is clearly understood. First, determine just how high the numerals are to run, or how many different letters are to be used in combination, and then set the assembler slide, line delivery slide, and the left vise jaw wide enough to accommodate the total number of individual numerals or letters to be used at the beginning of the line. Then add sufficient em spaces—not spacebands—to bring the widest set of roman numerals or letters to the desired indention on the slug. Use the same number of em spaces in each line. As the "extra" matrices assembled at the beginning of each line will be out beyond the opening in the mold, they will not cast, and so the slugs will not require trimming. The right-hand side of the letters will be in perfect alignment because the same letters and quads are actually in each line in front of the line-up, merely being left off the slug when the cast is made.

Turning the Matrices. Some operators follow the practice of reversing the "extra" matrices at the beginning of such lines; that is, turning them around, casting edge away from the mold, with the assembler slide, line delivery slide, and the left vise jaw set to the same width as the mold, and lifting the reversed matrices from the second elevator. But the procedure explained here is much more efficient.

If the roman numerals in a given job, say, are run up to XX, the total number of individual numerals to be used in the job will be three I's, one V, and two X's: IIIVXX. And various combinations of these numerals must be assembled at the beginning of each line of such matter to be set.

Example: I The Man from Home.
 IV Oliver Twist.
 XII Roads of Destiny.
 XX The Great Stone Face.
 III A Child's Dream of a Star.

To set the first line, assemble XXVII at the beginning; bring down nine em spaces (the space decided on, say); then the letter I, and set the rest of the line in the usual way. The XXVII, being out beyond the opening in the mold, of course will not cast, and so will not have to be trimmed off. To set the second line: Assemble XXII first; put in the same invariable spacing (nine em spaces); the IV, and so on.

In the following example of lined up letters there are six classifications, ABCDEX, or their combinations:

X	Eli Whitney & Co.....	\$13,400
A	Jameson, P. W.	11,234
CD	Kelley, Frank F.	14,327
ABX	Quebec, Henry	14,980
E	Lattimer and Brown	23,546

To set the first line, assemble ABCDE at the beginning of the line; then use as many space matrices—not spacebands—as has been decided on; put in the X, and set the rest of the line in the usual way. To set the fourth line, assemble CDE first; put space matrices as before; then ABX, and so on.

Folios and Running Headings

THERE ARE a great many styles of running headings and folios which are in common use in book and magazine work. A few representative illustrations are shown and explained. The same ideas can be used in the composition of any other styles which may be desired. (See Figure 15.)

It is a great advantage to the makeup man to have the running heading or folios in one continuous piece, or slug, because they are picked up one at a time during makeup and are usually placed at the extreme top or the extreme bottom of the page and would therefore be subject to being pied more than type within the page itself. However, there are many cases, such as in magazine headings, where the lines can best be made in two or three sections. This will be found particularly convenient where it is desired to change the page number after makeup. All that is necessary is to replace the short slug containing the folio, without disturbing the running heading.

Centered Folio. One of the folio forms most commonly used is the one consisting simply of figures—with or without brackets or other decorations—centered in the line. Folios must be in exact center because they should register with the one on the back of the printed page and unless they are

exactly in the center, they cannot be made to register. Such folios are usually set in one or two sizes smaller than the body matter of the page.

When such folio lines are comparatively narrow in measure, it is well to reset each line in its entirety; but when the lines are comparatively wide, the

THE ROMANCE OF THE BOOK

packs. . . . The chap-men thus became the purveyors of literature to the common people before libraries,

15

Old Style and Modern Types 73

reign of Charles I. The original matrices made by the first William Caslon having been fortunately preserved, Mr. Caslon

THE LINO TYPE

the modern newspaper, and it was from newspaper editors and proprietors that encouragement was, in the first place, sought.

Within a decade the Linotype transformed the Com-

[10]

AN APPRECIATION

bounds, and that when they did break loose it was sometimes beyond the combined power

- 23 -

FIGURE 15

number of space matrices required for the complete composition of each line renders advisable the "pulling in" of the left-hand vise jaw.

Setting the Vise Jaw. A good way in which to determine just how far in the vise jaw should be moved is to set and cast a representative line in its

entirety and then measure the distance from the left-hand edge of the first type-high character to the right-hand end of the slug. Then the left-hand vise jaw, together with the assembler slide and delivery slide, should be adjusted to the nearest measure to accommodate the measured distance. Thereafter it is merely necessary to place the folio matrices at the beginning of each line in the assembling elevator, followed by enough space matrices and spacebands to fill each line. The "pulled in" left-hand vise jaw automatically "blanks out" the forepart of each line so composed. (See Figure 16.) However, it is often necessary to drop a space matrix in front of the folio, as in the example below:

5
25
100

FIGURE 16

In the above example, folios were to be set up to and including three figures, in 8 point on 27-pica measure. By centering the 3-figure number, and measuring from the left of the figures to the right end of the slug, we find that the assembler slide and the left vise jaw should be set at 14 picas. In order to maintain center, it would be necessary to place an en space before the single-figure line (5), and a thin space in front of the two-figure line (25).

In case of an odd point-size font, where no combination of the spaces equals one pica, as in 10 point, for example, it is necessary to change the left-hand vise jaw adjustment a trifle to obtain center. Before changing the adjustment, however, mark where it is setting, so it can be replaced to normal after completing the composition of the folios.

To determine when a folio is exactly centered merely place two slugs with the smooth side together. If the figures are centered they will align on the reversed slugs.

It is faster to set and space out each line by the above-explained method than to change the figures in the first elevator. A still faster method, for plants so equipped, is the use of the Linotype Self-Quadder described on page 42.

Folio with Running Head. Another folio form quite commonly used is one consisting of letter combinations in the center of the line, and figure combinations at the end. And it is an established rule that folios of this sort should be composed with the odd numbers to the right of the word or words, and the even numbers to the left.

Folios of this sort should be composed on the Linotype in the following way: Assemble in its entirety the first even-number line and send the line into the first elevator jaws. Lock the spaceband-lever pawl for recasting. After the first line has been cast and the machine has returned to normal, make the necessary matrix changes in the line which is in the first elevator jaws, and cast the second folio. Then in the same way proceed to compose all the even-numbered lines in the series.

Odd-number folios of this sort are composed in virtually the same way, except, of course, that the matrix-changing is done at the right-hand end of the line in the first elevator jaws. Matrix-changing at the right-hand end of the line usually can be done more readily when the first elevator is in a position a little below normal. When a large quantity of odd-number folios are to be composed, the operator sometimes can save time by temporarily removing from the machine the delivery channel, as the removal of that part will facilitate the changing of matrices at the right end of the line.

Three-Section Folio. Setting folios and running heads in two or three sections, is simply a matter of recasting for the part containing the heading. When setting the short folio section, the left-hand vise jaw should be set in, to save unnecessary quadding. The short, blank slug on the one end should be the same length as the slug containing the folio on the other end.

Menu and Bill-of-Fare

SETTING TYPE for the menu cards used in restaurants, hotels, refreshment stands, special dinners, etc., calls for a variety of styles of composition, appropriate for the occasion. A few illustrations are given which embody some of the commonly used arrangements.

THE MENU

	Fruit Cocktail	
Pickles	Celery Hearts	Olives
	Baked Chicken with Brown Gravy	
	Hot Rolls, Drawn Butter	
	New Potatoes	
	Perfection Salad with Wafers	
	Strawberry Shortcake	
Coffee		Iced Tea
Cigars		Cigarettes

FIGURE 17

DINNER

Tuesday, July 18th

✧

CREAM OF BARLEY, NORMANDE
COLD CHICKEN CONSOMME

✧

FILET OF HALIBUT, DIEPPOISE

✧

CROQUETTE OF DUCKLING, BAYONNAISE

✧

GRILLED SWEET POTATOES
PEAS WITH BUTTER

✧

LETTUCE AND TOMATO SALAD

✧

BOSTON CREAM PUFF
FRUIT ICE

✧

FIGURE 18

Set in Fairfield, Border Matrix, 6 Point No. 82

The selection of an appropriate Linotype face is the first consideration. As a general rule, a design tending toward the decorative can safely be used. The large assortment of faces available on the Linotype makes possible a work of distinction in this class of composition.

Good spacing is particularly desirable in this work, and can easily be obtained. In the examples, the uniform spacing was obtained by using the regular machine thin space between words, the justification with spacebands being done between the groups.

The arrangement of the groups of words is a case where it is necessary for the operator to use his judgment to obtain shape harmony in the page. (See Figures 17 and 18.)

Frequently appropriate Linotype decorative material can be used to advantage to embellish work of this kind, as illustrated in Figure 18.

Centering a word, or group of words, in a line between two variables involves a little extra care for the operator, as illustrated below:

Celery

Olives

Radishes

In this line it was necessary to add one em space more between the words Celery and Olives than was used between the words Olives and Radishes. Use the same number of spacebands in both places. To find the amount of extra em spaces to add, merely lift the matrices for the variable words out of the assembling elevator, place them side by side on the copy board, and build with space matrices to a uniform thickness.

The daily menu card of the sort used at clubs, etc., calls for a type treatment which can be consistently followed from day to day and which at the same time is flexible enough in arrangement to permit of the necessary daily changes in detail. The arrangement shown serves both purposes.

TO ORDER

Cantaloupe or Honeydew Melon 45	Grapefruit 35	
Little Neck Clams 60	Cherrystone Clams 60	
Caviar on Toast 75		
Cream of Barley, Normande 35	Cold Tomato Broth 35	
Consomme Chiffondale 35	Cold Chicken Consomme 35	
Soft Shell Crabs Saute Meuniere 2.00		
Broiled Codfish with Brown Potatoes, Delmonico 1.75		
Broiled Small Steak, Perrin 2.25		
French Peas 35	Artichokes 35	New Peas 40
Coffee, with Cream 20	Demi-tasse 20	

FIGURE 19

Short Order Menus. In certain classes of this work, such as short order lunch specials, soda menus, and similar bill-of-fare cards, it is desirable to use leaders and square up the various sections, as shown in Figure 20. As a rule, dot leaders will be found most appropriate. Avoid letting the spacebands drive up too far, thus preventing too wide space between words.

SOUPS	HOT DISHES—READY
Vegetable 20	Sausages and Mashed Potatoes.. 60
Tomato 20	Fried Oysters with Cold Slaw... 55
Chicken 20	Beef Pot Pie..... 50
	Beef Stew..... 45
	Boiled Ham and Cabbage..... 60
	Grilled Beef Bones..... 40
DAIRY DISHES	SALADS AND COLD CUTS
Crackers and Milk..... 20	Potato Salad 20
Milk Toast 30	Chicken Salad..... 45
Any Cereal and Milk..... 30	Tuna Salad 35
Same, Half Cream..... 35	Lettuce and Tomato..... 35
	Cold Ham and Potato Salad.... 45
EGGS	Cold Cuts and Potato Salad.... 55
Boiled, 2..... 35	
Fried, 2..... 40	
Scrambled, 2..... 45	
Poached on Toast..... 45	

FIGURE 20

In menu and bill-of-fare composition the Linotype Hydraquadder, which is described on page 42, is an invaluable aid.

Programs

THE PRODUCTION of theater programs, club programs, booklets, programs for club musicales, plays, etc., makes a goodly volume of business for the printer. Composition for this work can be produced very quickly and profitably on the Linotype, by an operator who understands the use of the equipment, and has a good general idea of the styles commonly employed.

Almost every job presents some new problem in composition, but with a little study it will be found that the average Linotype equipment is sufficient to handle the work very creditably. Here, again, the wide variety of Linotype matrices which are available offers a very unusual opportunity for the Linotype-equipped shop to produce work of distinction. In this class of work, faces which tend toward the decorative can safely be employed, and very frequently the Linotype decorative material will be found useful.

Versatility of Machine on Program Work. A variety of emphasis and distinction can be obtained on the Linotype, even with one size of matrices **without** machine changes, by using capitals, lower case, italic, or capitals

and small capitals. These various means of distinction may be used with good effect in different ways. In the first illustration (Figure 21), caps and lower case were used for the selection, the name of the composer in italic, and the person rendering the selection is set in caps and small caps. In the second illustration (Figure 22) the selection was set in capitals, the name of the composer in small capitals, and the name of the person rendering the selection was set in capitals and lower case. Other combinations could be used just as well, with very pleasing effect.

Piano Duet—	
“Nordlicher Tonbilder”	<i>Gade</i>
“Love Song”	<i>Faust</i>
SCHMIDT SISTERS	
Voice—	
“Mother of Pearl”	<i>Ball</i>
“Keep on Hopin’ ”	<i>Maxwell</i>
BARBARA SCHMIDT	
Piano Prelude—Selected	
“Melodique”	<i>Schutt</i>
MAE SCHMIDT	
Musical Readings—	
“Food For Gossip”	<i>Jones</i>
“Fair Warning”	<i>Pease</i>
“Foolish Questions”	<i>Taylor</i>
BARBARA SCHMIDT	
Saxophone—	
“Saxophobic”	<i>Weidoft</i>
“Valse Erica”	<i>Weidoft</i>
IMOGENE PIERSON	

FIGURE 21

In Figure 21, open-leader composition was used. In Figure 22, the uniform spacing was obtained by using en quads between the capitalized words. Thin spaces were used between the words in the cap and lower-case lines and also in the small-cap groups. It is frequently necessary to add a hair space in small-capital spacing.

In the page from a club program booklet (Figure 23) two sizes of Janson were used. Uniform spacing was obtained by using thin-space matrices between parts of the names, the spacebands being used between the groups when two names are in one line, or on each side of the centered names.

PROGRAM

TO BEGIN WITH	VON WILM
Rosalie Hanes	
GAVOTTE	CADMAN
Nancy Ruth Hedgecock	
JUST IN TIME	HAMER
Mildred Brown	
HEATHIER BELLS	W. H. JONES
Nancy Reynolds	

 FIGURE 22

February Fourteenth

Valentine Party

Mrs. J. C. DeHority, Hostess

Miss Mary Alice Coleman Mrs. George Browne

Mrs. Claud Ewing Mrs. Dwight Perterson

March Fourteenth

Founders' Day Banquet

April Eleventh

Mrs. Edgar B. Carter, Hostess

Miss Lois Cheney Mrs. Barrett Woodsmall

Miss Nancy Johnson Mrs. S. E. Roberts

May Ninth

Election of Officers

Mrs. R. E. Milburn, Hostess

Mrs. Ralph Douglas Mrs. John Cartwright

Mrs. O. H. Hershman Mrs. W. C. Best

 FIGURE 23

PROGRAM



- I. The Star Spangled Banner *Francis Scott Key*
 THE TEACHERS CHORUS AND AUDIENCE
- II. *a.* In Spain *Di Chiara*
b. Vermeland *Swedish Folk Song*
c. Amaryllis *Old French Rondo*
 THE CHORUS
- III. *a.* Where'er You Walk (Semele) . . . (1685-1759) *Handel*
b. Phyllis Has Such Charming Graces
 (1731-1769) *Anthony Young*
c. Bright Phoebus (1746-1827) *James Hook*
 JOHN BARNES WELLS
- IV. *a.* Maria, Mari *Neapolitan Song*
b. Love's Benediction *Old Londonderry Air*
c. My Johnny Was a Shoemaker *English Folk Song*
 THE CHORUS
- V. *a.* Aubade (Serenade from Le Roi d'Ys) . . . *Edouard Lalo*
b. L'Heure Silencieuse *Victor Staub*
c. Malgre Moi *George Pfeiffer*
 MR. WELLS
- VI. *a.* Hymn of the Pilgrims (A.D. 1620) *Edward MacDowell*
b. Thy Beaming Eyes *Edward MacDowell*
c. To a Wild Rose *Edward MacDowell*
 THE CHORUS
- VII. *a.* A Song from Omar Khayyam *Victor Harris*
b. Dream Port *John Barnes Wells*
c. I Wish I Was a Little Rock *John Barnes Wells*
 MR. WELLS

FIGURE 24

I. The Star Spangled Banner *Francis Scott Key*
 THE TEACHERS CHORUS AND AUDIENCE

IN SPAIN

Spain is the land where there's laughter,
 Castanet times the guitar ;
 Land where they dance the fandango,
 Down by the old Alcazar.
 Land where the roses are blooming,
 Land where the orange and fragrant flow'r,
 Crowning each maidenly face.

*Composed by
 Vincenzo
 Di Chiara and
 arranged for
 chorus by N.
 Clifford Page*

Spain is the gypsies' own homeland,
 They of a noble race,
 Wearing the garments of princes,
 Velvet and spangles and lace.
 Land where the ruins are towering,
 Land of brave knighthood in flow'r,
 When the Moor sighed his farewell.

Swinging, swaying, over the moonlit lawn,
 List, O list, to the castanet,
 Yon by fountains that purl and fret ;
 Swinging, swaying, moonlight a silver rain,
 Falling free where the dancers be
 On this midsummer night in Spain.

VERMELAND

O Vermeland, thou lovely, thou glorious land,
 The crown thou of all the lands of Sweden ;
 If e'er I reach the blessed promis'd Paradise-land,
 To Vermeland I'll turn again from Eden ;

*This Swedish
 folk song has
 been arranged
 for chorus by
 Louis Victor
 Saur*

O there will I live, and there will I die,
 O there will I live, and there will I die,

In the two pages of the program shown in Figures 24 and 25, three sizes of faces were used. The body of the job, however, was set from one set of matrices. The entire pages, the decorative material as well as the type lines, are Linotype-cast.

Theater Programs. Composition on the average theater program presents a difficult problem to many shops. The booklet usually consists of many advertisements, with a few lines of the program on each page. For the shop which is Linotype-equipped, however, this problem is greatly simplified. With two or three sizes of display matrices, a good body face, and a rule matrix slide, sufficient material is at hand to set an entire job, with all new material for each part.

In this class of work, speed in production is often an important factor. In setting the advertisements the operator should study his copy thoroughly, and set all of each size of face before changing the machine to another size. However, when the shop is equipped with a Mixer Model Linotype, where the matrices may be mixed at will and distribution is made automatically to the proper magazine, the machine change can be made so quickly that it is best for the operator to set each advertisement complete as he comes to it. This will facilitate makeup.

Programs often lend themselves to composition which can be easily and efficiently produced by a Linotype Hydraquadder as described on page 42.

Use the Advertising Mold. When using a Mixer Model Linotype for this work, much machine-changing time can be saved by using an advertising mold which is equipped with liners for the smaller body sizes. When an occasional display line is desired, it will not be necessary to change molds. Merely let the display line overhang from the first slug, open the trimming knives to the point-size being set, and then cast a blank slug to support the overhang of display letters.

Balance and Spacing of Columns

OPERATORS SHOULD not be careless in the important details of spacing the lines and balancing the effect on the page. It is just as easy to set and display the matter correctly as it is to give the slipshod composition. In a great many instances, it is really easier and faster to set the better kind, as for example, that shown in Figure 26.

Centering the Body. When setting a job of this kind the operator should first indent the lines so the general body effect will appear centered on the page, without the necessity of sawing off the ends of the slugs and moving the type to one side.

In the first group, where there was only one column of names, the *average* line was approximately centered, using em quads in front—no spacebands. All the other lines in this group were then set to this indentation.

THE TYPOGRAPHIC ASSOCIATION



Officers

HAROLD W. OLIN, *President*
 RALPH E. CLARK, *Vice-President*
 DONALD ELLIOTT, *Vice-President*
 EDWIN M. FISHER, *Vice-President*
 GUY C. FLETCHER, *Recording Secretary*
 VIRGIL D. KISTE, *Executive Secretary*
 HARRY W. YOUNG, *Treasurer*

Executive Committee

EVE B. LEE, *Chairman*
 DARWIN S. YORK, *Vice-Chairman*

PERRY BROOM
 STERLING J. CANNON
 JOHN F. CHRISTIAN
 JOHN DELANEY
 JAMES H. FISHER
 HAROLD HARRINGTON

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 HERBERT H. JEBENS
 ROBERT H. LOOMIS
 MAURICE MENDLE
 ROBERT M. SCHAFER
 HUGH SCOTT

Apprentice Committee

DAN SMITH, *Chairman*
 DARWIN S. YORK, *Vice-Chairman*

HAROLD G. SMITH
 KENNETH STIRLING
 HAROLD J. SUPRISE
 HAROLD G. VOORHEES

CARL E. VOSS
 J. E. WATKINS
 FRANK R. WILKE
 LOUIE WITSMAN

In the sections where two columns appear, the names in each column should be set on slugs one-half the width of the job. Almost perfect balance can then be obtained by centering the *average* line, using quads in front, and setting the names in *both* columns to this indentation. Another advantage: should alterations be made after setting which would necessitate moving a name from one column to another, the slugs are interchangeable, all being the same length and having the same indentation. The above process will also give the proper amount of space between the columns.

In composition similar to that shown in Figure 26, there is a tendency on the part of many operators to produce irregular, and often very wide spacing. This is due to the fact that the lines are short, with not many spacebands in the lines. There being only a few spacebands in the line, it requires close attention to always fill the lines so the spacebands will drive up the same height. To maintain uniform spacing in that manner would take more time, therefore many jobs are set, poorly spaced.

Uniform spacing can easily be obtained, and composition speeded up, by using a thin-space matrix between words in this kind of job, using spacebands and em spaces to fill the line after the name has been set. When thus set, the operator need not be particular as to how far the bands will drive up—just so the line is full enough to cast.

Constitution and By-Laws

THE BODY composition of the Constitution and By-Laws booklets commonly used by the various societies and organizations usually can be handled excellently with one size of Linotype matrices. The display usually required for the article, subtitle, and section heading can be obtained in various ways, Figure 27 showing a very common form. In the example, capitals are used for the article heading; capitals and small capitals are used for the article subtitle and the section number.

It is a common practice in many shops setting this class of composition to spell out the first section number (SECTION 1) and abbreviate the subsequent section numbers (SEC. 2). This custom seems to have been established in the hand-set days when small capital letters were scarce and the reach to the type case long. With the Linotype, however, where there are always sufficient matrices for the line, the appearance and completeness of the composition will be better if all the section numbers are spelled out, however, established style must be followed.

By-Laws composition should be set very much like the constitution, using the capitals and small capitals for the section number, as illustrated in Figure 28.

CONSTITUTION

ARTICLE I

NAME

This society shall be known as the "Barorrlet Mutual Aid Society, Incorporated," of Greater New York, Borough of Brooklyn.

ARTICLE II

OBJECT

The object of this society is to afford relief to members in case of sickness or disability, provided such sickness or disability shall not have originated from intemperance, vicious or immoral conduct.

ARTICLE III

OFFICERS

SECTION 1. The officers of this society shall consist of a President, Vice-President, Financial Secretary, Recording Secretary, Treasurer, three Trustees, a Sergeant-at-Arms. These officers and four members shall constitute the Board of Managers.

SEC. 2. The officers mentioned in Section 1 shall be elected by ballot annually to hold office for 1 year, with the exception of 1 trustee, who shall be elected for 3 years.

FIGURE 27

BY-LAWS

SECTION 1. Each member shall pay annually, not later than November, dues amounting to \$2.50.

SEC. 2. The Board of Directors shall have the right to appoint such committees as are necessary for the progress of the Club.

SEC. 3. The membership of this Club shall be limited to seventy-five members.

FIGURE 28

Resolutions

IN SETTING resolutions, the general style is followed as illustrated in the example on page 82. It will be noted that the words "whereas" and "resolved" are set in capitals and small capitals. The word "resolved" is also

sometimes set in italics, according to the style preferred. The words "whereas" and "resolved" should be followed by commas. The first word following the words "whereas" or "resolved" should be capitalized. At the end of each paragraph, the last sentence should end with a comma, followed by the word or words "and" "Therefore be it" "and be it further" as the case may be. Note that there is no punctuation following these words.

WHEREAS, the Almighty God, in His great wisdom, has seen fit to take from our midst John W. Montgomery, a beloved brother and comrade of this post, and

WHEREAS, Comrade John Montgomery was dearly beloved for his long, faithful, untiring, and unselfish devotion to his comrades, Therefore be it

RESOLVED, By Dayton Post No. 102, G.A.R., in convention assembled, that steps be taken to commemorate the memory of our dearly beloved comrade, by the erection of a tablet in his memory, to be placed in the National Soldiers' Home, at Dayton, Ohio, within the next year, and be it further

RESOLVED, That a committee be appointed by the chairman to carry out the wishes of this body, and be it further

RESOLVED, That a copy of these resolutions be sent to the national body as a pledge on our part of full support and coöperation in any action which may be taken toward the erection of such a memorial.

Book Composition

THE MAKING of books is an art in itself, and is a subject about which volumes have been written. Old masters of the craft live in our memory through their works as makers of books. The most that can be hoped for in these few pages is to create an inspiration which may lead to a thorough study of this work.

Every printer should study bookwork, even though he never sets type for a volume. It is the greatest of inspirations for better printing of all kinds. It is the basis for typography in all classes of composition.

Book Style. Every printing plant handling bookwork follows either an established style of its own or of its customers. Operators are required to follow such style carefully. In plants where a book is handled only at intervals, failure to observe the traditions of bookmaking may produce an amateurish result. The well-informed operator should know more about book composition than can be compressed into the present volume. He should be familiar with the various parts of a typical book and how they are related to each other typographically. Particularly should he study the effects which are secured by variations in size of type and the contrast between capitals, small capitals, lower case, italics, etc., within the range of any one font. The operator can inform himself along these lines through the study of the publications of the Mergenthaler Linotype Company, the style books of various publishers and presses, the books selected in the A.I.G.A. Fifty Books, etc.

SELECT ESSAYS: V



ON CONJUGAL
FELICITY

Edited by
HERBERT HOSKEY
and compiled from
many sources

CRAFTSMEN PRESS
BOSTON · LONDON

Contemporary Essays On Management



I. TOMATOES, PRISMS AND MANAGERS

AT THE Smithsonian Institution in Washington some of the funds of the Research Corporation are being used to support work on the relations of plant growth to radiation. Earth composition and sunlight are prime factors in the growth of plants. One of the numerous interesting Smithsonian experiments has to do with tomato plants.

A synthetic earth in the form of a liquid is placed in twenty-four separate pails. In each is placed a live tomato plant, so far as possible of exactly the same character and condition of health.

Prisms are constructed which separate sunlight into twenty-four different elements. One of these elements alone is directed to each separate tomato plant.

Some of the plants grow rapidly. Some turn to one side. Some turn to another side. Some are shrivelled.

[1]



COLARD MANSION

II

BRUGES, the fine old metropolis of Flanders, offers many points of the greatest interest to the historian and the antiquary. In the Fifteenth Century it was the residence of the sovereigns of the House of Burgundy, and to its extensive marts resorted the most opulent merchants of Europe. There the arts, as well as commerce, were developed to a degree of excellence unequalled since the Augustan age, and even Paris was surpassed in literary and artistic treasures. Artists and craftsmen were, as a consequence, numerous, and those of them who were connected with the production of books were enrolled as a trade guild. And this pre-eminence is not immaterial to our inquiry, for William Caxton was not only for more than thirty years a constant resident in Bruges, holding for a considerable period a position of great authority, but in this city likewise took his first lessons in typography, and obtained the materials that were necessary for the introduction into his native country of the new art

The title-page, Figure 29, shows a simple setting which is easily handled on the Linotype. The principal display lines are letterspaced, thus adding to the length of the lines, and obtaining desired shape, at the same time lightening the weight of the mass. The page was set in 30-point Narciss and 16-point Baskerville, primarily, with 12-point Baskerville Italic capitals, in the publishing imprint. The ornament is 12-point border matrix No. 1626.

The book page, Figure 30, illustrates a first-page treatment of a Linotype-set book. The title was in 24-point Garamond No. 3, upper and lower case. A 6-point Matrix Slide No. 1285 separates book title from essay title, and the latter, in 11-point Fairfield caps, letterspaced, has a half-point rule below it. (Matrix Slide No. 403.) The text is set in 11-point Fairfield on 13-point body, with page folio between brackets.

The book page, Figure 31, is an excellent illustration of the use of Linotype decorative material in bookwork. The page was set in 11-point Janson, on 13 point. The title line is 12-point Janson Italic capitals. The chapter number is 11 point. The decorative material used consisted of 6-point matrix slide No. 508 and 6-point matrix slide No. 400; 12-point borders Nos. 1025 and 1026. The initial is 48-point Caslon Old Face.

Note the uniform amount of white space around the initial. The type should align at the top and bottom of the initial, and the space at the side of the initial should approximately equal that below the initial.

Footnotes

FOOTNOTES ARE usually set in type several sizes smaller than the text. They should be set with plain paragraph indention to conform with the indentions of the text. The reference mark should be separated from the first letter by a thin-space matrix.

The asterisk (*) is the most commonly used reference mark. However, when more than one reference to footnotes is used on a page, other marks should be used. The characters † ‡ ¶ and § are available with all Linotype fonts up to and including 14 point. These may properly be used as reference marks.

In books where a great many references are indicated, superior figures may be used. The superior figure should be separated from the first letter in the footnote with a thin space.

The reference mark in the text is usually placed against the letter or character of the word with which it is used.

The makeup usually places the footnote at the bottom of the page on which the reference occurs. It is usually separated from the text either by extra space, a 3- or 4-em rule or dash line flush at the left edge of the page, or, sometimes, by a rule extending the entire column width. The operator

should always set a 3- or 4-em dash line, flush at the left, immediately preceding each footnote. It will serve as a guide mark to the make-up, and may be finally used or discarded, according to the style being used.

Copyright Lines

WHILE THE manuscript for copyright lines is usually furnished to the machine operator, the law regarding such notices is very specific. A knowledge on the part of the operator of the rules and general custom for such work may save an oversight by some one else. The following extract from the Federal law is given:

“That the notice of copyright . . . shall consist either of the word ‘Copyright’ or the abbreviation ‘Copr.’ accompanied by the name of the copyright proprietor, and if the work be a printed literary, musical, or dramatic work, the notice shall include also the year in which the copyright was secured by publication. In the case, however, of copies of work specified in subsections^o (f) to (k), inclusive, of . . . this act the notice may consist of the letter C inclosed within a circle, thus, © accompanied by the initials, monogram, mark, or symbol of the copyright proprietor: *Provided*, That on some accessible portion of such copies or of the margin, back, permanent base, or pedestal, or of the substance on which such copies shall be mounted, his name shall appear. But in the case of works in which copyright is subsisting on July 1, 1909, the notice of copyright may be either in one of the forms prescribed herein or in one of those prescribed by the act of June 18, 1874.”—*Section 18, Copyright Law of the United States.*

Copyright lines in a book must appear on the title-page or the page immediately following. This illustration shows a commonly used form:

COPYRIGHT, 1957
BY THE MERGENTHAUER LINOTYPE COMPANY
BROOKLYN, N. Y.

The laws of some foreign countries require that printed matter entering those countries designate where it was printed. For that reason the words “Printed in U.S.A.,” or some similar designation, are added. This may very properly be placed on the copyright page.

The following illustrates a commonly used copyright form for photographic reproductions, and similar work:

© Underwood & Underwood, New York.

The line is usually set in small type, very close to the under edge of the subject. Indent slightly from the outside page marginal edge, or center the copyright, according to the best typographical appearance.

^o This refers to: (f) maps; (g) works of art; (h) reproductions of a work of art; (i) drawings or plastic works of a scientific or technical character; (j) photographs; (k) prints and pictorial illustrations.

Always be careful about the spacing of lines which stand out by themselves. Avoid too wide space.

Contents Pages

THE QUALITY of the "Contents," or "Table of Contents" part of a book job depends on the little niceties of spacing, margins, and proportion of white space to type. The type to be used, of course, is governed by the plan of the book.

Sometimes the various subdivisions of a chapter are listed in separate lines. In this instance, open-leader work with dot leaders will lighten the page with pleasing results. (See Figure 32.)

	PAGE
Foreword	xxvii
General Principles	1
Division of the Mechanism	1

CHAPTER I

THE KEYBOARD

The Keyboard	3
Assembler Belt	15
Assembling Elevator	15
Assembler Slide	15

FIGURE 32

For a more compact Table of Contents, the various subdivisions are frequently run in, separating them with em dashes. The various sections are very effectively brought out by using a hanging indentation, as shown in Figures 33 and 34.

CHAPTER II

CAPITAL AND CAPITALIZATION

Definitions, 53.—The practical financier v. the economist, 54.—Capital stock or indebtedness, 59.—Gross and net capitalization, 61.—Official statistical averages, 63.—Their correct interpretation, 64.
Net capitalization of individual roads, 65.—Eliminating intercorporate issues, 66.—Market value or par value, 67.—Deducting outside investments, 68.—Joint holdings, 70.—Allowance for individual peculiarities, 71.—Earning power and capitalization, 74.—Expenditures for maintenance, 77.—International comparison, 79.—Financial classification of companies, 81.

FIGURE 33

IV. SOUTHERN COLONIES

A. <i>Report on Virginia, 1671. By Governor William Berkley. . . .</i>	78
B. <i>Exports of Southern Colonies, 1673. By the author of American Husbandry</i>	80

CHAPTER III

LABOR, EXCHANGE, AND POPULATION, 1607-1763

LABOR

I. SCARCITY OF LABOR

A. <i>High Wages in Pennsylvania, 1698. By Gabriel Thomas. . . .</i>	82
B. <i>High Wages in New England, 1775. By the author of American Husbandry</i>	83

II. INDENTED SERVANTS

A. <i>Servants and Slaves in America, 1748. By Peter Kalm.</i>	84
B. <i>Work of a Servant in Virginia, 1656. By John Hammond</i>	87

FIGURE 34

Hanging Indention. In Figure 35 the hanging indention displays the various topical sections. The en dash is used between the figures to indicate that the topical subject is contained in all consecutive pages between the given page numbers.

	PAGE
LINOTYPE FACES IN SERIES	7- 84
Modern Faces	7- 28
Old Style Faces	29- 58
Antique, Title, and Miscellaneous Faces	59- 71
Gothic Faces	73- 84
COMPARATIVE SHOWING OF TWO-LETTER FACES,	
5 to 14 point	85-120
5- and 5½-Point Faces	87
6-Point Faces	88- 91
7-Point Faces	92- 93
8-Point Faces	94- 99
9-Point Faces	100-101
10-Point Faces	102-107
11-Point Faces	108-109
12-Point Faces	110-115

FIGURE 35

Index Pages

INDEX PAGES for books, magazines, and catalogs are usually set two or three columns to the page, the columns being separated either by plain rules or white space. Various kinds of copy, of course, make necessary a variation in style of composition. In most jobs, the page number can be run on following the subject titles. In Figure 36, the names of persons are run in capitals and small capitals.

	INDEX	305
Lesson study, 103-105.	Neatness, 165, 184, 236.	
Levels of interest, 136-139.	Negative, incentives, 155; initiative,	
LINDNER, T., 50.	190-192, 215-216; teaching, 23.	
List, of emotions, 131; of instincts,	Neglect of automatic, 23.	
74, 125; of disciplinary and moral	NETSCHAJEFF, A., 175.	
habits, 236, 239.	Neurone, 57-58, 60.	
LOCKE, J., 45.	New Haven, 41.	
Lockstep, 23.	New York, 41.	
Love, 76, 126.	NIEMEYER, A., 206.	

FIGURE 36

For reference to some other part of an index, italics are used. To avoid wide spacing in run-over lines, many typographers prefer to hold in, or indent on the right, lines that cannot be set to full measure with good spacing. This is often permissible where the items are short, causing an irregular alignment on the right-hand side of the column. The better spacing thus obtained adds to the appearance of the page. (See Figure 37.)

468	INDEX	
ASSEMBLER FRONT PARTITION, inter-	BAR, ESCAPEMENT. See <i>Escapement</i>	
feres with body of matrix, 26, 27.	<i>Bar</i> .	
ASSEMBLER SLIDE, 13; described,	BAR, SECOND-ELEVATOR. See <i>Second-</i>	
15, 18.	<i>Elevator Bar</i> .	
ASSEMBLER SLIDE BRAKE, function	BASE, oil holes in, 167.	
explained, 16; adjustment of, 159,	BELT, ASSEMBLER. See <i>Assembler</i>	
ASSEMBLER SLIDE FINGER, 14, 18.	<i>Belt</i> .	
ASSEMBLER STAR WHEEL, 19. See <i>Star</i>	BELT, MATRIX-DELIVERY. See	
<i>Wheel</i> .	<i>Matrix-Delivery Belt</i> .	

FIGURE 37

Where various references come under one general heading, the heading is usually set flush, and the references are indented, rather than repeat the heading for each reference. (Figure 38.)

INDEX

- Courts-martial, 395.
 - appeal to President, 369.
 - necessity for, 405.
- Courts of Appeal (U.S.), 411.
- Courts, powers of,—
 - assent to formation of corporations, 78.
 - dissolves partnerships, 147.
 - dissolves corporations, 148.
 - protect absolute rights, 158.
 - appoint inferior officers (U.S.), 389.
 - appoint officers (U.S.), 379.
- Courts (U.S.), 408–413.
- Credentials,—
 - to conventions, 260.
 - referred to committee, 264.
- Credit agencies, 153.
- Delegates,—
 - to county conventions, 256.
 - number determined, 261.
 - definition and authority, 262.
 - alternates and proxies, 263.
 - territorial, 304
- Democracy,—
 - definition, 20.
 - in N. E. townships, 80.
- Democratic party, 254.
- Departmental business, 379.
- Departments,—
 - three, 21.
 - interdependent, 406.
- Deposit,—
 - definition, 151.
 - certification of, 151.

FIGURE 38

Frequently a bold-face type can be used to advantage to give emphasis to the main titles. A bold face of much weight, however, should be avoided except in unusual cases. From a typographical standpoint the contrast is too great. (Figure 39.)

INDEX

- Army of Egypt**, advances on Syria, ii. 68, 69; abandoned by *N.* in Egypt, 80; Adm. Bruix sent to relieve the, 79; its desolate plight, 80, 81.
- Army of England, the**, creation of ii. 24; *N.* general of, 24, 35; on the watch at Boulogne, 48; the right wing of, 51; strength, 290, 291; ordered to march to the eastward, 362.
- Army of Helvetia**, incorporated into the Army of the Rhine, ii. 140.
- Army of the Alps**, Napoleon's plans for the, i. 245; combined with Army of Italy, ii. 9.
- Army of the East (Allies)**, iv. 3.
- Army of the Elbe**, formation of, iii. 23.
- Army of the Interior, the**, i. 298; *N.* made second in command, 305; *N.* reorganizes, 308; 1796, 345; commanded by Augereau, ii. 7.
- Army of the Main**, formation of the, iii. 393.

FIGURE 39

Where a squared-up column effect is desired, especially in magazine or catalog jobs, leaders may be used leading to figures which are aligned on the right end of the slugs. (See Figure 40.)

	PAGE		PAGE
Acme Staple Co.	914	Babcock Printing Press Mfg. Co. . .	742-743
Aigner, G. J., & Co.	914	Bahson Co.	894
American Assembling Machine Co. . .	728	Barnes-Crosby Co.	868
American Electrotype Co.	896	Chalmers Chemical Co.	729
American Numbering Machine Co. . .	925	Chandler & Price Co.	715-716-717-718
American Steel Chase Co.	914	Channing, Alfred W.	924
American Typefounders Co., 710-711, 741, 752		Cheshire & Greenfield Mfg. Co.	740

FIGURE 40

Particular care should be taken to align like words when they appear in successive lines. Frequently this can be accomplished by placing a space matrix between such words. If spacebands are used, always fill the line so the bands will drive up approximately the same distance.

It will be noted in Figure 40 that hyphens are used between the page numbers in some instances, while in other places commas are used. According to general custom, when the hyphen or en dash is used between numbers, it indicates that all pages between the numbers given, inclusive, are included in the reference. The comma indicates that only the pages mentioned in the numbers are included.

Credit and Signature Lines

IN MAGAZINE, booklet, and similar composition, it is customary to give the author's name, frequently adding his official title or occupation. Likewise, it is a customary courtesy to give credit for an item when reprinting from another publication.

By JAMES H. MORRISON, *Chairman*, Committee on
Industrial Education, New York, N. Y.

By JAMES H. MORRISON, *Chairman*, Committee on
Industrial Education, New York, N. Y.

By JAMES H. MORRISON,
Chairman, Committee on Industrial Education,
New York, N. Y.

By JAMES H. MORRISON,
Chairman, Committee on Industrial Education,
New York, N. Y.

By JAMES H. MORRISON, *Chairman*
Committee on Industrial Education,
New York, N. Y.

Most publications have certain adopted styles for the composition of such "by-lines," and it is advisable for an operator to make inquiry from some one in authority regarding the style preferred.

A few illustrations which are in common use are shown, which will give an idea of the many possibilities of display of this kind with a regular font of Linotype matrices—using capitals, small capitals, italic, or caps and lower case.

For a complete article, the author's name is commonly placed immediately underneath the heading. When set for a double-column heading in a magazine, the credit also should be set double column. The long- and short-line method of display usually can be used for good appearance. The credit should be set on slugs the full double-column measure—counting the space between the columns. The credit line should ordinarily be held-in so it will be definitely shorter than the double-column heading lines. The credit lines may be set in one or two sizes larger than the text, but frequently they are set in the same size as the article itself. Often a face a little heavier, or tend-

KNOWLEDGE

The pleasure and delight of knowledge far surpasseth all other in nature. We see in all other pleasures there is satiety; and after they are used, their verdure departeth, which showeth well that they be but deceits of pleasure, and not pleasures; and it was the novelty which pleased, not the quality; and herefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually interchangeable.—*Bacon*.

HIS PHILOSOPHY

"I've never worn out the knees of my trousers prayin' for rain," says the Village Deacon. "An' what's more, I ain't a-goin' to. Rain an' shine'll come when they're good an' ready, an', if I can't run the world I'm in, I certainly can't give directions to the other one."—*Atlanta Constitution*.

Every piece of printed matter should somehow pay the reader for his time.—C. L. LEWIS, in *The Inland Printer*.

ing more to the decorative, may be used in good taste, but harmony with the heading type should be held.

In short items, credits are frequently given by placing the name at the end. The credit should be preceded by an em dash and usually follows immediately at the end of the last sentence, in the same line. If small capitals and italics are available, they should be used.

In a quotation involving many short lines, or in poetry, the credit lines often look better in a separate line.

*Are you one of those fellows who always want
A different job than they've got?
Are you one of the kind who always look
Across at their brother's lot?
The world's just full of folks like this—
Forever changing 'round;
They kill the chance that might be theirs
By never gaining ground.*

—EDWARD C. STERRY

For, so swiftly it flew, the sight
Could not follow it in its flight.

—Henry Wadsworth Longfellow

“By this hand, it will not kill a fly. But come, now I will be your Rosalind in a more coming-on disposition, and ask me what you will, I will grant it.”

“Then love me, Rosalind.”

“Yes, faith, will I, Fridays and Saturdays and all.”

“And wilt thou have me?”

“Ay, and twenty such.”

“What sayest thou?”

“Are you not so good?”

“I hope so.”

“Why then, can one desire too much of a good thing? Come, sister, you shall be the priest and marry us. Give me your hand, Orlando. What do you say, sister?”

“Pray thee, marry us.”

“You must begin. ‘Will you, Orlando’—”

“Go to. Will you, Orlando, have to wife this Rosalind?”

“I will.”

“Why, now: as fast as she can marry us.”

“Then you must say, ‘I take thee, Rosalind, for wife’ ”

“I take thee, Rosalind, for wife.”

—As You Like It—SHAKESPEARE

Biblical quotations, set in Roman, carry the credit line showing the chapter in italics, with chapter number in Roman numerals of lower-case and verse numbers in Roman figures.

O LORD, Correct me, but with judgment; not in thine anger, lest thou bring me to nothing.

—Jeremiah x. 24. Psalm vi. 1.

If quotations are set in italics, for contrast with text matter, then set the credit line in roman.

DOMINUS REGIT ME

THE LORD is my shepherd; therefore can I lack nothing.

He shall feed me in a green pasture, and lead me forth beside the waters of comfort.

He shall convert my soul, and bring me forth in the paths of righteousness for his Name's sake.

Yea, though I walk through the valley of the shadow of death, I will fear no evil; for thou art with me; thy rod and thy staff comfort me.

PSALM xxiii.

Signed articles, such as announcements, letters, reports and the like, are indicated by placing the name of the writer at the end of the article. Signatures are usually set in either all capitals, or capitals and small capitals. Signatures should be indented on the right, using the same space that is used for the regular paragraph indentation.

In case the last line is mostly blank and the page is fairly crowded, signatures may be placed on the last line, as long as there are two or three ems of space in front of the name.

Boston, Mass., September 3, 1957

Superintendent Instruction Department

Nibla Electronic Institute

29 Smith Street

Elister, Ohio .

Dear Sir:

This will introduce Mr. William A. Bush, one of our employes, for whom reservations were made to take up your course of instructions on September ninth.

Very truly yours,

HOWARD RADIO CO.

N. J. COLEMAN, *Supt.*

Alignment of two or more names may be accurately accomplished by dropping quads — not spacebands — in front of the names, setting the longest name first.

HENRY R. JONES

JOHN W. SMITH

CHAS. M. WILLIAMS

The longest line should be indented on the right the same amount as the regular paragraph indentation. When several names are to be lined up, especially in long lines, the left-hand vise jaw should be set in to accommodate the longest line, and all lines set that measure. The vise jaw will blank out the line, saving quadding.

Mixing Linotype Faces

THE FOLLOWING example will show the advantage of the multiple-magazine machines, where the mixing of two or more faces can be accomplished without waiting for the line of matrices to be distributed to the magazine.

In the example which follows, Figure 41, it will be noticed that there are roman, italic, and bold faces, in some instances, combined in the same line. The roman and italic are on the matrices in one magazine and the bold-face type in another magazine.

The value of using these machines for this class of work can readily be understood. They are especially serviceable in all classes of composition which require bold-face side-headings or bold-face sub-headings in combination with the roman text.

RARE OLD PORTRAITS AND PRINTS

MORLAND-WARD: The First of September, Morning; Ditto, Evening; *both prints beautifully engraved in pure mezzotint by W. WARD after GEO. MORLAND; size of actual engraved surfaces, 18 by 24 inches, cut to plate lines, framed in black and gold, and glazed; size over all 24 by 29 inches. Open Letter Proofs and Brilliant Impressions in Fine State.* **\$350 the pair.**

MORLAND-WARD: Girl and Calves, *engraved in mezzotint by W. WARD after GEO. MORLAND; most beautifully printed in colors; size of plate-mark 14½ by 17½ inches; good margins; unframed. Genuine Original Impressions in Fine State.* **\$150.**

WESTALL: Girl and Pigs, *engraved on copper in stipple point by OGBORNE and GAUGAIN after R. WESTALL, R. A.; size of engraved surface, 9½ by 12¾ inches; framed in best black and gold with inside gold slip and glazed; size over all 19¼ by 25¼ inches. Open Letter Proof and Impression in Fine State.* **\$40.**

COURSING AT EPSOM: Complete set of four prints, *engraved in aquatint by J. POLJARD, and beautifully colored by hand, after the original drawings by SORTORIUS; size of actual engraved surfaces, 14½ by 20 inches, fitted in mounts and old English gold frames; glazed size over all, 21 by 26 inches. Brilliant Coloring and Unspotted.* **\$125 the set.**

Typewriter Composition

IN COMPOSITION of typewriter faces the following differences from ordinary composition should be noted by the operator:

All matrices in the magazine are the same thickness.

There are no ligatures.

The left quote mark is a double character and should be used for both left and right quotes. It is only necessary to drop one matrix for the quote marks.

The right quote mark, or apostrophe, is a single character and should be used for single quote, or for an apostrophe.

When an em dash is desired it is better to use two dashes. This will distinguish between the dash and the hyphen, which are very similar.

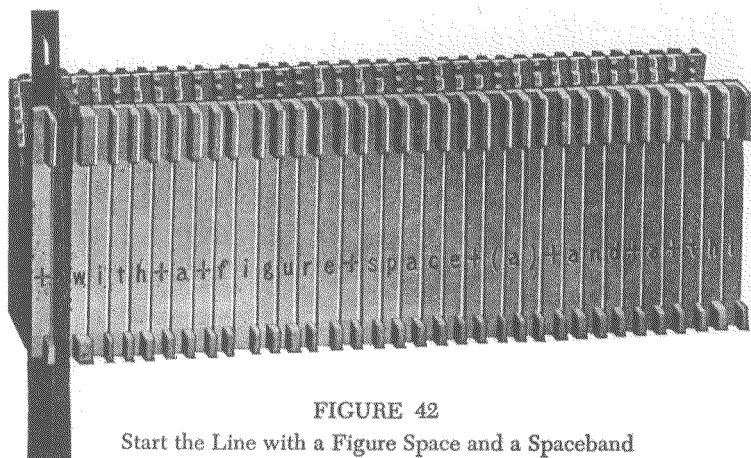


FIGURE 42

Start the Line with a Figure Space and a Spaceband

On the standard two-letter font, matrices raised to auxiliary position will give the same face as in the regular position, with the exception that the character or characters will be underscored.

Leaders run in the en- and em-leader channels. However, periods are used for leaders and are used interchangeably.

Em spaces raised to auxiliary position cast underscore dash rules.

The side sorts include the following: fractions, brackets, per cent mark (%), cent mark (¢), shilling mark (/), English pound mark (£), number mark (#), and leader aligning dash (—).

Matrices for spacing between words may be used from either em- or en-space channels or from the thin-space channel, thus insuring an adequate supply.

By eliminating the use of spacebands between words, uniform typewriter spacing is obtained.

Extra thick spacebands should be used in typewriter composition. Since there are usually only one or two spacebands in a line, the wide spread of this band will greatly facilitate justification.

There is only one standard for typewriter spacing, and that has been established by manufacturers of the typewriters. Typewriter characters and spaces are all of uniform width, therefore facsimile typewritten letters set on the Linotype should be spaced with careful regard to this distinguishing feature.

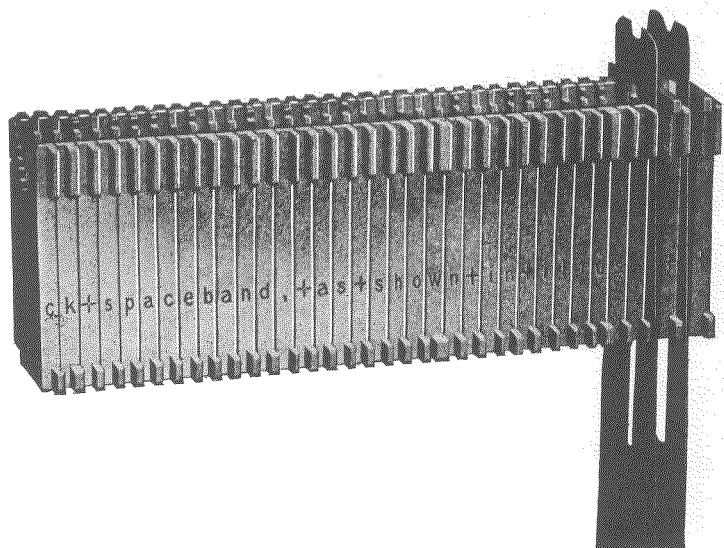


FIGURE 43

Start the Second Twin Slug Flush, with One or More Spacebands and Figure Spaces at the End of the Line

Setting Typewriter Twin Slugs. Assuming the measure to be approximately 40 picas, set the assembler slide, vise jaw, and the liners in the mold to 21 picas. Start the first line (Figure 42) with a figure space and a spaceband, and use figure spaces between the words. Start the second line (Figure 43) flush, using figure-space matrices between the words and one or more spacebands and figure spaces on the end of the line. The ends of all the lines are ragged, just as though they were composed on the typewriter. By eliminating spacebands between words, uniform typewriter spacing is obtained.

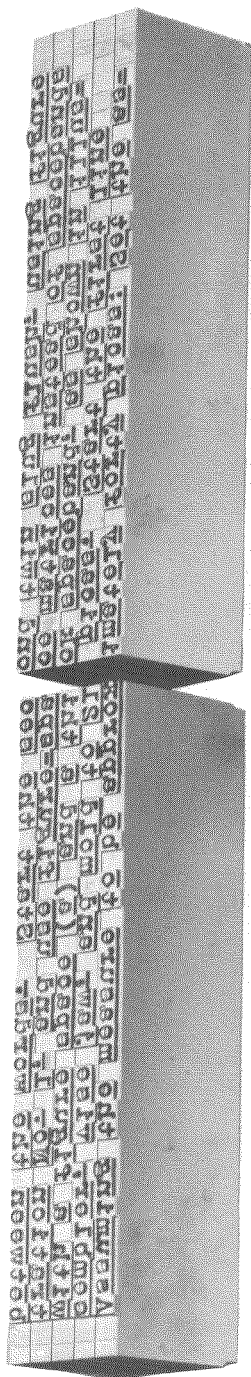


FIGURE 44

Linotype Typewriter Twin Slugs, Accurately Spaced

If the work is executed properly, it will be difficult to distinguish a typewritten page composed on the Linotype from one turned out on the typewriter. Any typewriter measure will be an approximate measure, because in running a fixed space between words, the line cannot be justified to any definite measure, as in ordinary composition. It is therefore necessary to end the line whenever there is not space enough for the next word or syllable. This causes the ends of the lines to be irregular, or ragged, just as in actual typewriter work.

The illustration (Figure 44) shows Linotype twin slugs accurately spaced, having been set on a 30-pica machine. Most typewriter composition is printed on a sheet $8\frac{1}{2} \times 11$ inches, and is generally set to measures of from 36 to 42 picas, depending on the amount of copy. The 42-pica Linotype should be used for this kind of composition, thus eliminating the necessity of multiple-slug composition, and thereby reducing production costs and at the same time speeding up production.

To set typewriter composition on a 42-pica Linotype, start the composition in the usual straight-matter manner, using space matrices between words, and spacebands only on the right-hand side of the lines.

The regular size spacebands may be used in setting typewriter matter when the extra thick ones are not available.

Commercial Printing

THE WIDE typographic range of the Linotype makes it the ideal machine for the commercial shop. The large assortment of matrices available, in complete series, from text to display, makes possible complete composition on the machine of such jobs as announcements, programs, menus, leaflets, folders, advertisements, catalogs, tickets, package labels, blank forms, letterheads, envelope corner cards, statements, billheads, memorandum blanks, price lists, and the many other jobs which are handled in the everyday work of the book and job shop.



FIGURE 45

Spartan Heavy and Medium For a Business Card

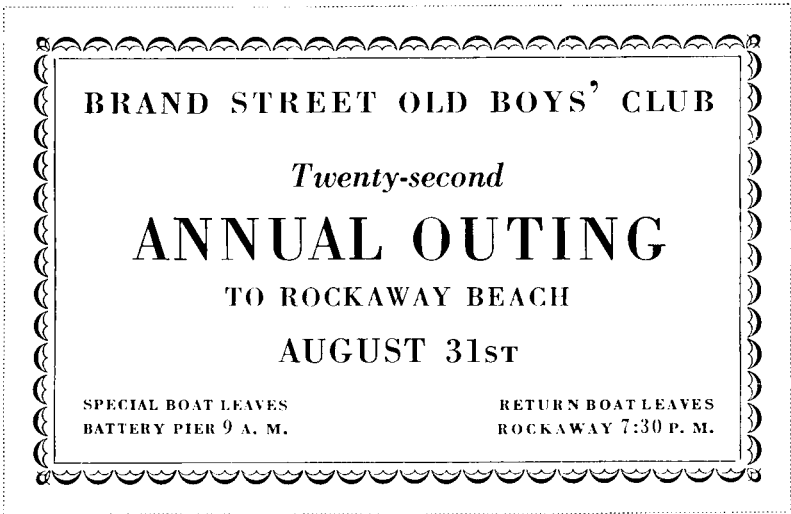


FIGURE 46

As a general rule, this class of work must be set economically and at the same time it must be typographically good. The possibilities of the machine are limited only by the ingenuity and skill of the operator. The operator, as in hand composition, must use good judgment as to appropriate body size

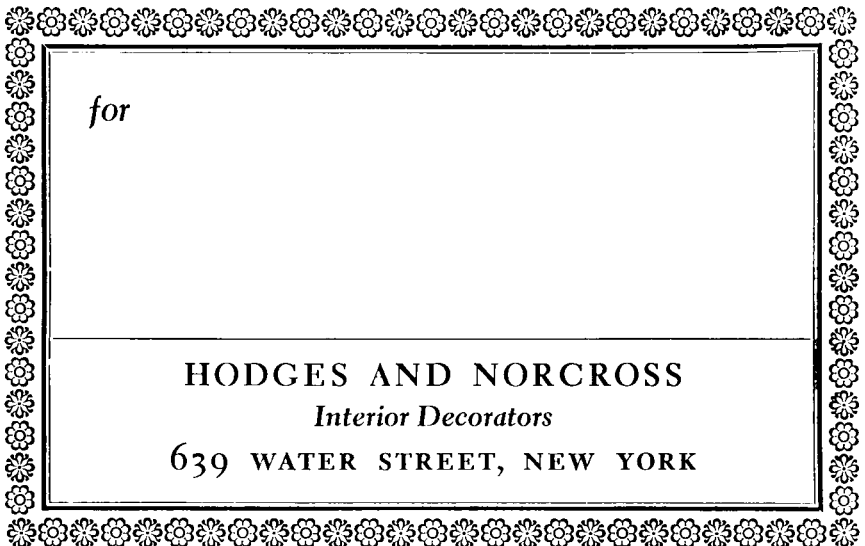


FIGURE 47

and face and spacing. However, no more skill is required on the machine than is necessary in hand composition.

The Linotype-equipped shop has a profit-making advantage which is quite frequently overlooked—running a job several up, thus cutting down press impressions. As an example, in a run of letterheads, four forms can be set by recasting, with a small percentage of increased machine time. Any number of forms can easily be recast, with one setting.

The illustrations on the accompanying pages merely show some of the many possibilities of the Linotype for this class of work.

Figure 45 shows the setting of a business card containing a little more than the usual amount of copy. Letterspacing was used to obtain a squared-up effect. The ornament is 12-point Linotype border matrix No. 1607.

Figure 46 illustrates the setting of a card or ticket. Here a border adds to the typographic appearance, holding the masses together. Italics and small capitals are also used to good advantage. Letterspacing the capital and

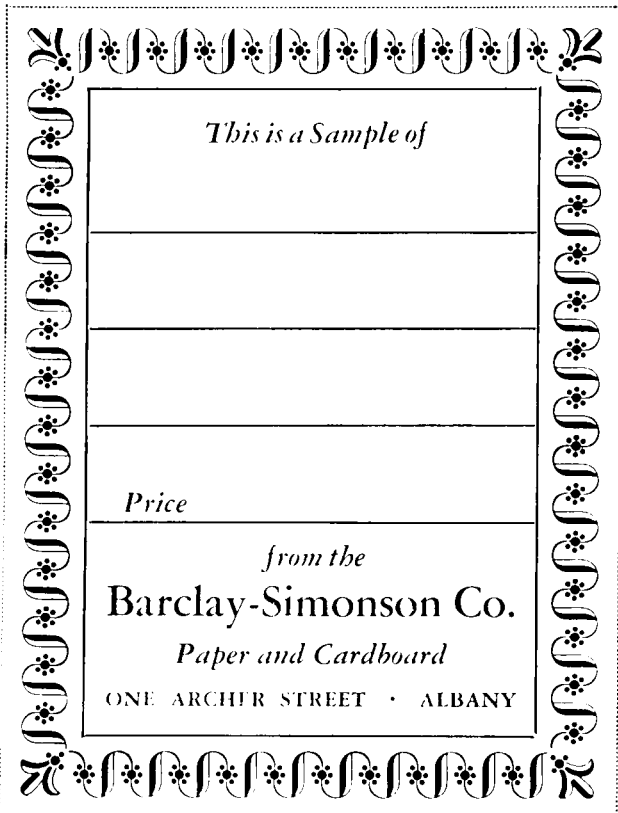


FIGURE 48

the small-capital lines helps to lengthen the lines and obtain a desired shape harmony. The border is 6-point border matrix No. G-42 and corner piece G-43 L and R, combined with a half-point rule.

Figure 47 is an example of a simple setting of a package label. The decorative material is all Linotype-cast. Color could easily be introduced in the decorative border of a job of this nature to good advantage. The border is made with 12-point matrices Nos. 1626 and 1627, and an Oxford rule.

Figure 48 is an example of a sample card, showing the use of a rather bold type treatment. With a bold decorative type, a striking decorative

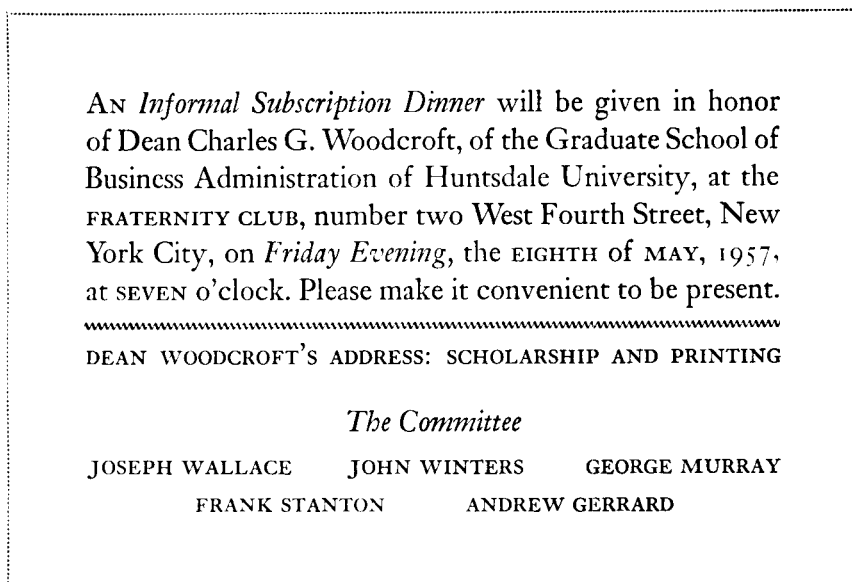


FIGURE 49

border may very appropriately be used. In the original job the border was printed in a medium blue, giving a very pleasing appearance. The matrix slide is 18-point No. 1275A, combined with a one-point rule.

Figure 49 shows a simple, yet very pleasing, invitation card. The italics and the small capitals are used for special display of various parts, yet are not too prominent in the job. The entire card is set in one size of type, 11-point Janson, with recut italic; rule is 6-point Matrix Slide No. 160.

Figure 50 illustrates the setting of a series including a letterhead, note-head, and envelope corner. The idea of a typographically consistent group of stationery is here carried out in the Electra series, in both bold and regular weights, including the Cursive and small capitals. A simple floret replaces the customary monogram or trade-mark.

CHARLES F. HODGES

DANIEL NORCROSS

HODGES AND NORCROSS
Interior Decorators
639 WATER STREET



New York,

HODGES AND NORCROSS
Interior Decorators
639 WATER STREET
NEW YORK

HODGES AND NORCROSS
Interior Decorators
639 WATER STREET
NEW YORK



FIGURE 50

Related Stationery in Electra and Electra Bold

In work of this character particular attention should be given to spacing. Usually the regular machine spaces, en spaces, or thin spaces, according to the size of face, should be used between words, thus maintaining a uniformity of space. Lines which stand out by themselves, as in this class of work, should not be widely spaced.

Telephone Directory Composition

AFTER EXHAUSTIVE experiments carried on with the co-operation of telephone companies all over the United States, taking into consideration the various things that combine to make the ideal telephone directory—readability, simplicity, the readiness with which listings may be found, and the compactness that makes for economy of production, special faces for telephone-directory composition have been designed.

A sample of telephone-directory composition is shown, which illustrates a style in common use. Figure 51 is set in 7-point Bell Gothic Light with Bold.

Gallagher W H 40HomestdAv PO rtRich 7-7829-J
 Gallagher Wm H Jr 3Eugen TO ttntl 8-1494-M
 Gallese A 75Baltimre HO newyd 6-0669
 Galletta Jos 62Hancock DO ngnHls 6-2619
 Galli Thos 348ElliottAv TO ttntl 8-1757
 Gallicchio R&Sons plmbg 225HylanBl. . SA intGeo 7-5111
 Galligan C J 77RandallAv GI braltr 7-4853-M
 Gallo Wm butchr 1282RichmndRd . . . DO ngnHls 6-1536
 Gallo Wm 266PresctAv DO ngnHls 6-1777
 Galloway C C 374LivrmorAv GI bra'tr 2-1542
 Galloway E Miss 21WashPl GI braltr 2-8966-J
 Galloway R 50HighwAv SA intGeo 7-4949-J
 Galpern Mary Mrs genl store
 232RichmndTer GI braltr 7-3724
 Galvano F statnry 62WinhmAv DO ngnHls 6-2399
 Galvin F Miss 146Husson DO ngnHls 6-1818
 Galvin M 12YorkAv SA int Geo 7-5819
 Gambardella P 172DickieAv GI braltr 2-3369
 Gamble L Miss 391ForestAv GI braltr 2-4710
 Gamble Wm G 147NorwdAv GI braltr 7-7172
 Gomgee A C 36 MelroseAv PO rtRich 7-8977-J
 Ganchevov I W 609MetrlpItAv GI braltr 2-3833-W
 Ganchrow S 121VanDuzer SA intGeo 7-5003
 Gandy C B off 190Main TO ttntl 8-2100
 Gandy C B CovrlyAv GI braltr 2-5497
 Gangloff Chas 42OaklyPl DO ngnHls 6-1167
 Gannon Frank S Jr 219BardAv GI braltr 2-8913
 Gannon J H 6Nichlas GI braltr 7-3215
 Gannon John J 13Beekman GI braltr 2-5259-M
 Gannon John J A 91 Hastngs GI braltr 7-3719
 Gannon Olive Miss 39VeltmnAv GI braltr 2-2532
 Gannon&Rabin paintrs supls 298Jersy . . GI braltr 7-8790

FIGURE 51

Fonts for telephone-directory composition have been arranged so that printers may purchase only the matrices actually required, instead of the complete regular font which may include characters not used in telephone-directory composition. Since these styles are seldom used for anything but

telephone directories, their value for this work can be doubly appreciated in the avoidance of unnecessary investment.

It will be observed that punctuation is generally omitted in telephone-directory composition. Extra thin spacebands should be used.

When setting bold face, followed by light, time can be saved by carefully observing the matrices for the bold that have just passed the first, or short, section of the duplex rail. Then push in on the lever which operates the short duplex rail, allowing the matrices for the light face to drop to normal position.

Piece Fractions

FOR COMPOSITION requiring the use of irregular fractions, two kinds are available: the oblique-style, slanting stroke piece fractions, and the horizontal stroke piece fractions.

Universal Sans Serif Fractions: This Linotype development provides a range of oblique-style fractions with large, legible figures in all denominations up to $\frac{63}{64}$, that permits considerable flexibility in combination.

Where the fraction has two figures in the numerator position, the initial figure is an independent superior that aligns with the single numerator: $^{2+9} = \frac{29}{32}$.

The six independent superior figures $^1 \ ^2 \ ^3 \ ^4 \ ^5 \ ^6$ used in conjunction with the single numerator fractions $\frac{1}{6}$ to $\frac{5}{6}$, $\frac{1}{32}$ to $\frac{31}{32}$ and $\frac{1}{64}$ to $\frac{63}{64}$, complete the range in all denominations and reduce the characters required from 56 to 21.

The complete list of characters, and examples of double numerator fractions obtained by adding the independent superiors:

Single Numerator Fractions: $\frac{1}{8} \ \frac{1}{4} \ \frac{3}{8} \ \frac{1}{2} \ \frac{5}{8} \ \frac{3}{4} \ \frac{7}{8} \ \frac{1}{3} \ \frac{2}{3} \ \frac{1}{5} \ \frac{2}{5} \ \frac{3}{5} \ \frac{4}{5} \ \frac{1}{6} \ \frac{5}{6} \ \frac{1}{12} \ \frac{5}{12} \ \frac{1}{24} \ \frac{1}{6} \ \frac{5}{6} \ \frac{1}{32} \ \frac{25}{32} \ \frac{1}{32} \ \frac{29}{32} \ \frac{1}{32} \ \frac{31}{32} \ \frac{1}{64} \ \frac{3}{64} \ \frac{5}{64} \ \frac{7}{64} \ \frac{9}{64}$.

Independent Superior Figures: $^1 \ ^2 \ ^3 \ ^4 \ ^5 \ ^6 \ ^7 \ ^8 \ ^9 \ ^0$

Example—Double Numerator Fractions by Adding Superior Characters: $^{11/6} \ ^{13/6} \ ^{15/6} \ ^{17/32} \ ^{25/32} \ ^{31/32} \ ^{35/64} \ ^{47/64} \ ^{59/64}$.

Special order blanks should be used for ordering special fractions. A supply of blanks will be sent free of charge upon request.

Horizontal Stroke Piece Fractions. These matrices have been designed for producing the irregular fractions used largely in mathematical text-

book composition. These matrices are made to work with 5- to 14-point faces, and consist of the figures 1 to 0.

The matrices are punched as duplicate character except that the figure in the normal position has the horizontal stroke punched underneath it.

Advertising Figure Mold Required. To use these matrices, an advertising figure mold is required. Arrange the mold to cast a 5-point slug. Assemble the line of text with the upper half of the fraction in the normal position; this casts the numerator and the horizontal stroke on the first slug. To set the denominator assemble spaces equal to the text mats of the top line, using the same number of spacebands, but substituting the proper mats for the denominator on the upper rail. If one-letter mats are used, the second line of the fraction can be set the same as the top line with the mats in the auxiliary position. When these slugs are brought together they will show the line of reading matter with a perfect fraction.

(First Slug)

Find the product of $712\frac{181}{1812}$, $8908\frac{204}{372}$, and $2090\frac{4}{4075}$

(Second Slug)

1 8 1 2 3 7 2 4 0 7 5

(First and Second Slugs Together)

Find the product of $712\frac{181}{1812}$, $8908\frac{204}{372}$, and $2090\frac{4}{4075}$

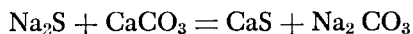
(The Characters)

$\frac{1234567890}{1234567890}$

Superior and Inferior Characters

IN THE composition of such matter as mathematical textbooks, chemical formulae, medical, biblical, and genealogical composition, superior and inferior characters, such as figures, letters, or special signs, are frequently used. Superior characters are available in two sizes—one for use with 5- to 9-point faces, the other for 10- to 14-point faces. Inferior characters are available in two sizes also—the smaller size is made on each inferior alignment from 5 to 9 point, the larger on each inferior alignment from 10 to 14 point. The variation in alignment of inferior characters permits their descenders to properly align with the regular descenders in each point size of the major characters. Caps, lower case and points in both superior and in-

ferior characters are made as two-letter matrices, roman and italic; the figures, roman and italic or roman and bold; other characters as one-letter matrices. They are cut to run pi, unless otherwise ordered, and are inserted in the assembler.



$$(x - y)^2 = (x + y)^2 - 4x$$

Superior figures or italic letters are frequently used in jobs where many reference marks are required, such as in biblical or genealogical composition. Also in jobs reproducing or using a style which was common among the early printers, superior letters are frequently used. The superior characters for this work may be either the special superior matrices or matrices of a smaller point size. All Linotype matrices are cut so the characters align at the top of the line, regardless of size. Characters from small faces, therefore, appear as superior characters when used with a larger face.

Such practice is not recommended except in occasional cases since it is necessary to remove these substitute superior matrices before sending the lines through for distribution.

EZRA⁷ FARWELL SAMUEL,⁶ SAMUEL,⁵ JOSIAH,⁴
ELIEZER,³ ELIEZER,² JOHN¹). Born in Plymouth,
March 10, 1805.

G^o. Washington Y^e Ma^{ties}

In the first example, 6-point matrices were used as superior figures, and in the second, 8-point was used with 14-point.

Sans serif superior figures in light and bold weights, and in several point sizes, are also available. These are shown in the One-Line Specimen book.

Accented Letters

FOREIGN LANGUAGE composition requires the use of many accented letters. The Linotype is now used successfully for composing more than a hundred different languages in all parts of the world. Almost every language has its own particular accented letters. Also, foreign words used in English composition sometimes require the use of accented letters.

Two styles of accented capital letters are in common use, known as the low caps and high caps. Low-cap accented letters are reduced in height, so that the complete character, including the accent, will cast on the regular body.

High caps are cut full height of the regular character. The accent mark extends above, and the increased height is added at the top of the slug. When high-cap accents are used, a special mold is required.

The High-Cap Accent Mold. To allow for the extra space required by the accents, the aligning groove of the high-cap mold is cut away. This causes the characters to be cast lower on the slug than normal. Since the characters are lowered on the slug about two points, it is necessary to increase the size of the mold liner two points also, to accommodate the descending letters. For example, if 10-point type is being used on the high-cap mold, 12-point liners should be used.

Below are shown two illustrations of a few accented characters. The first shows low-cap characters, compared with the regular height letters. The second line shows the high-cap characters, cast on high-cap mold.

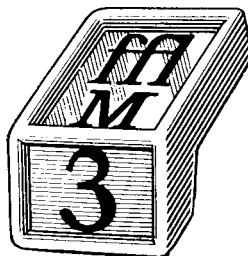
AAAÄÄÄ EEEEE OOOÖOØ IIII NN
 AAÄÄÄÄ EEEEE OOOÖOØ IIII NN

Accented characters are furnished either to run pi or in the keyboard, as desired. Special order blanks for accented characters will be sent free on request.

The Three-Character Key Button

A KEY BUTTON may be obtained for use on the Linotype which will accommodate three full-size character designations. These key buttons can be placed on any keyboard in a few moments by the machinist-operator or the machinist in the shop.

This key button is practically the same over-all size as the regular key



button, and the extension is not in the operator's way. Made in black and blue, with celluloid caps, to cover the printed character to be inserted.

This button will be found to be very valuable in accented-letter layouts, special figure work, advertising figures, etc., as well as where other special characters are cut to run in the magazine.

Brace Work

THERE ARE TWO forms of Linotype braces: matrix slide braces, made in various lengths from 1 to 30 picas; matrix piece braces, which can be assembled for a brace of any desired length in even ems of the body size used, either horizontally (the entire brace on one slug), or vertically (with the sections on successive slugs). They are made in all sizes up to and including 14 point. A complete set of piece braces consists of the following characters:



Matrix Slide Horizontal Braces. Below are shown three typical lengths of matrix slide braces:



By using various combinations of the brace matrices any desired length of brace may be made, facing either direction. For vertical brace work one section is cast on each slug, in proper alignment so they join when the slugs are assembled. The horizontal braces are cast on one slug to the desired length and placed in the form as a separate unit.

The two-piece brace is made from two matrices which cast characters like this } } for vertical work. The same two matrices will make a brace facing either right or left. To make a two-piece brace facing to the right, take the matrix whose top curve turns to the right; cast this on the first slug and the result will be like this:

1491 Lorrisey Siding }

Assemble the matrices for the next line and drop the brace matrix in at a point corresponding to that occupied by the brace matrix in the first line, and when the slug is cast it will appear like this:

1493 to Fairport HarborOhio }

When the two slugs are brought together the perfect brace is formed with the open side to the right:

1491 Lorrisey siding
 1493 to Fairport HarborOhio }

To make a brace facing to the left, reverse the above-explained process, using the second matrix on the first slug and the first matrix on the second slug.

To make a brace covering an odd number of lines (three or more) requires the use of brace characters on each slug as follows:

{ on the first slug
 } on the second slug
 { on the third slug

When these slugs are assembled, a brace is formed, as shown below:

{ on the first slug
 } on the second slug
 { on the third slug

If the brace is to be extended over five or more lines, add the straight vertical brace character following the first line and preceding the last line.

To make a brace covering an even number of lines (four or more) requires the use of brace characters on each slug as follows:

{ on the first slug
 } on the second slug
 } on the third slug
 { on the fourth slug

When these slugs are assembled, a brace is formed, as shown below:

{ on the first slug
 } on the second slug
 } on the third slug
 { on the fourth slug

If the brace is to be extended over six or more lines, merely add the straight vertical brace character following the first and preceding the last line.

The following illustrates the proper procedure for setting a simple brace form of five lines:

Annexed in 1896.....	{	Linwood	\$9.00
		Avondale	12.00
		Westwood	11.00
		Clifton	10.00
		Riverside	13.00

How to set the example illustrated. Set the words "Annexed in 1896" and leader out the line to a point at least beyond the alignment of the brace matrices. Change the left-hand vise jaw and the assembler to the desired measure for the section containing the braces. Place the brace matrix in front of each line, followed by a thin space and the words and characters of the line. After the entire group has been set, remove the lines "Annexed" and "Westwood," saw or cut the line "Westwood" to the measure which it was set. Then set the saw or cutter to the full measure of the job, place the short line "Westwood" against the gauge, butt the "Annexed" line against the short line, and saw. This gives a fully justified line, in two sections.

In case three or more sections of brace lines are desired, as in the example:

Peach Bloom	{	her attendants.....	{	Martha Doris Michaelis
Mouse Ear				Miss Sylvia Levey

Set the first two lines separately, taking the words out of the assembling elevator, laying them on a slug and lining them up with the necessary spaces to make them equal in length, with the brace included. Then fill the lines with bands and em spaces.

Peach Bloom	{
Mouse Ear	

Set the second section flush to the left, and leader out, as illustrated:

her attendants.....

Set the last two lines, with braces, flush against left-hand vise jaw, and space out the line.

{	Martha Doris Michaelis
{	Miss Sylvia Levey

Saw or cut the first section to the length which will include brace characters. Saw the third section closely to the last letter of the longest line. Set the saw to the full measure of the job, place the first and third sections against the gauge and saw the center slug to fill the measure. It will then be

necessary to place leads or slugs on each side of the center section to center the line on the brace.

The Ellipsis

WHEN SETTING an extract or quotation where it is desired to print only a part of the original, use periods, slightly separated, to indicate where the part has been left out. Three periods are sufficient, but when a complete sentence ends just before the omission, four periods counting the one next to the last word, should be used. The space between periods varies according to size of type and measure being set. Ordinarily an en space is used.

NATIONALISM

The part that this nation will play in the new day of relationships which is now upon us will depend upon our preparation and our character. . . . It summons all men, of whatever creed, who would count themselves as patriots, to join in making clear to all the world the unity and consequent power of this country.

Frequently copy contains the omissions indicated by several asterisks (*), but the operator should use the periods, the asterisk being a reference mark, and wrongly used as an ellipsis.

Ballot Squares

THESE MATRICES are made in two forms, solid and sectional. The solid matrix casts the complete square, and it is used on a single slug or cast overhanging on an advertising figure mold. The sectional matrices require two matrices to complete each square; the top half of the square being cast on the first slug, the bottom half on the second slug with the name of the candidate, and when the two slugs are brought together they produce the complete square.

GEORGE D. THOMPSON.....

JOHN A. EDWARDS.....

Ballot square matrices are available in 6- to 36-point sizes to cast solid squares on a single slug; in sectional matrices, 6 point to make a 12-point box, 9 point for an 18-point square, 10 point to make a 20-point square, 11 point to make a 22-point square, 12 point to make a 24-point square, and also 14 point to make a 28-point square.

All sizes are made in both the plain square, and with the X inclosed, as shown in the illustration above.

Recasting on the Linotype

EVERY PRINTER should know that by using the Linotype for recasting purposes a great saving may be made, both in time and in the use of material. Slugs and spacing material are being used daily, all cast on the machine. In addition, borders, rules, dashes, running heads, etc., add to the great wealth of material that can be obtained simply by holding the lever or locking the machine for recasting. The operator should recast lines wherever possible.

In using the border block be sure to lock the spaceband transfer before inserting the block in the first elevator. Unless this is done at first it may be overlooked until the block attempts to transfer, and this may injure the second elevator.

There is a certain knack in recasting that is acquired only by experience. Care must be exercised to see that the molds are not overheated and that one line of matrices is not used too long without change. Where a good deal of recasting is done, as where display slugs are cast, the Linotype Thermo-Blo Mold Cooler is recommended. This mold cooler circulates air through the mold cavity in the mold and over the front and back of the mold to efficiently cool the molds so that slugs with good faces and proper density of metal throughout can be cast.

Various Molds in General Use. The operator will be called upon to use many different kinds of molds in the various composing rooms. They include the regular universal adjustable mold, used generally for text composition; the recessed universal adjustable mold; the one-letter display mold; the two-letter display mold; the advertising figure mold; and the high-cap accent mold, used in foreign language composition.

Borders

THE CASTING of rules, dashes, borders, and other ornamental or decorative material is accomplished by the use of border slides and blocks or special border matrices, as illustrated in Figure 52.

Border Blocks and Slides. The equipment used in casting rule or border slides consists of a matrix-slide block, similar in cross section to a matrix's shape, and a matrix slide which contains the border or rule design. These blocks are made in lengths up to 42 picas. The slides are solid or continuous matrices and usually extend the entire length of the block. The slides are of

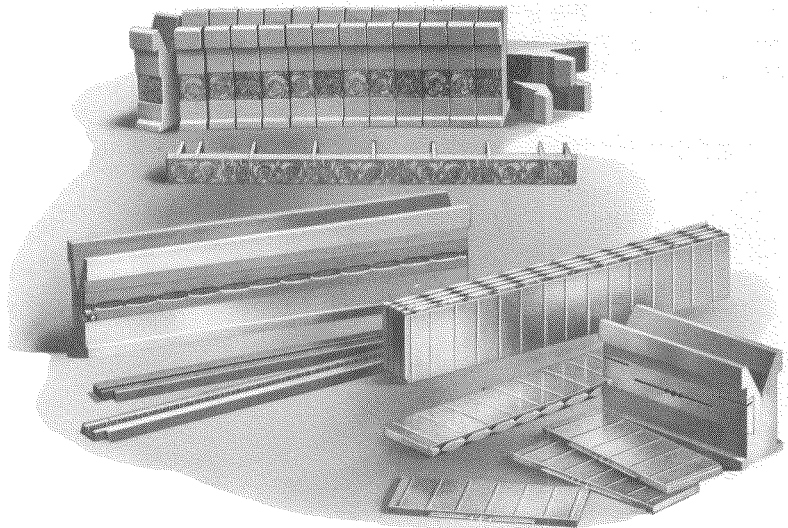


FIGURE 52
Block, Slides, Matrices, and Slugs

brass, and are made as accurately as the single-character matrices. The rule and border designs are punched throughout the entire length of the slide; dashes are punched in the center of the slide. Each slide is complete in one piece, and can be used on any standard Linotype. No extra or special parts are required for the use of the slides, except that a matrix-slide block must be provided. The slides are interchangeable in the block and can be substituted one for another at will.

To cast rule or border slugs, place the desired slide in the slide block, and then place the block in the normal position in the first elevator jaws, *below* the duplex rails. Lock the spaceband lever pawl, and turn in the first elevator slide recasting block. Then by intermittently pulling out on the starting-and-stopping lever, proceed to recast the required number of slugs. The spaceband lever pawl must be locked to keep the block from being transferred from the first elevator jaws. Turning in the recasting block prevents the border block from jumping upward as the elevator comes to a sudden stop on the full upstroke.

Trimming Knives Must Be Set Accurately. When casting borders, make certain that the trimming knives are set to correct measurements, both as to height and thickness of slugs. This is necessary in order to get a perfect joint where two pieces come together. Constant and rapid recasting may require slight reduction in the temperature of the metal.

When considerable border material, especially of the larger sizes, is to be

cast on a machine equipped with two or more molds, two molds can be used to advantage by casting a few slugs on one, then alternating to the other, thus preventing either mold from becoming too hot.

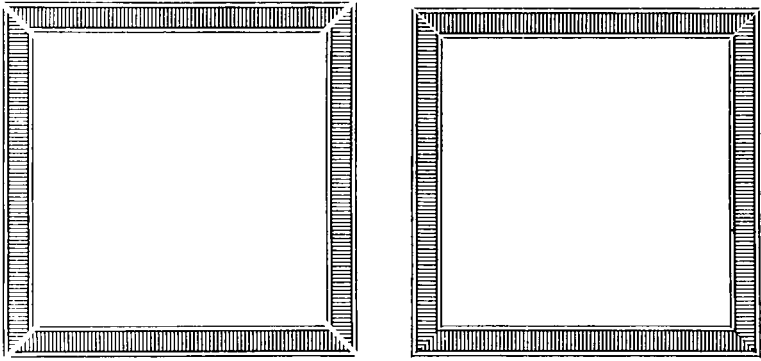


FIGURE 53

This Shows a Border Cast from a Border Slide and Block. The First Block Shows the Mitered Corners Separated. The Second Shows How They Appear When Joined Together

When it is desired to use rule or border slugs to form the outline of a square or rectangle, perfect “joins” of the corners can be made possible by the mitering of the ends of certain slugs at an angle of forty-five degrees. (See Figure 53.) Other outline effects can be produced with slugs mitered at other angles.

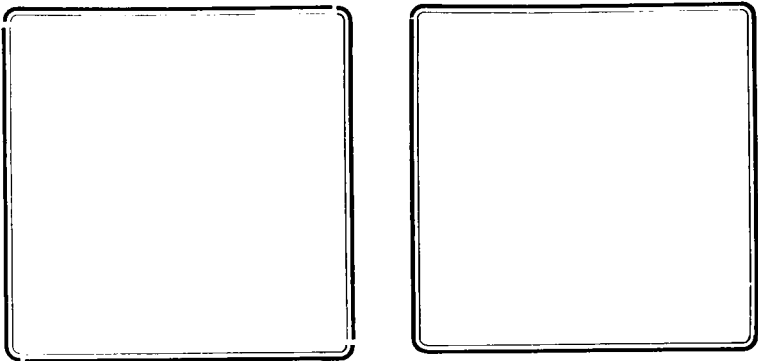


FIGURE 54

The Above Shows a Border Cast with Round Corners. This Style of Border Is Put Together by Lapping the Corners, as Illustrated

Corner Pieces on Rule. However, it is possible to cast certain rule faces with a corner at one end of the slug, or at each end. It is absolutely necessary, though, in thus making an inclosing border, that the slug be of the same thickness as the body size of the slide used. Thus, a 6-point slide must be cast on a 6-point slug; a 10-point slide must be cast on a 10-point slug; a 12-point slide must be cast on a 12-point slug; and so on. (See Figure 54.)

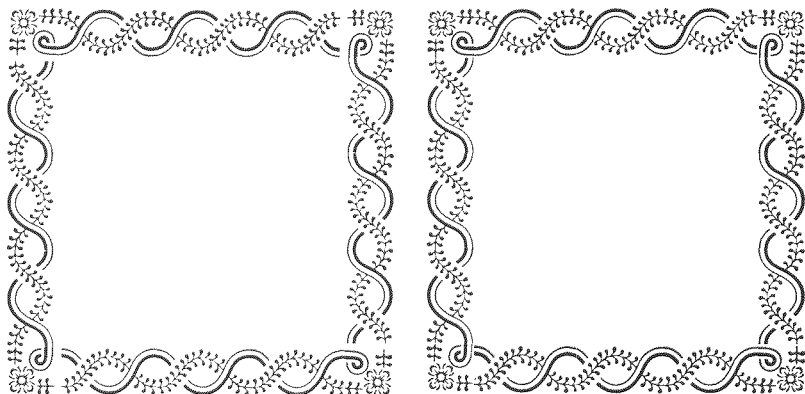


FIGURE 55

This Shows a Border Cast from Linotype Border Matrices, Using a Corner Design. The Border Is Put Together by Lapping the Corners

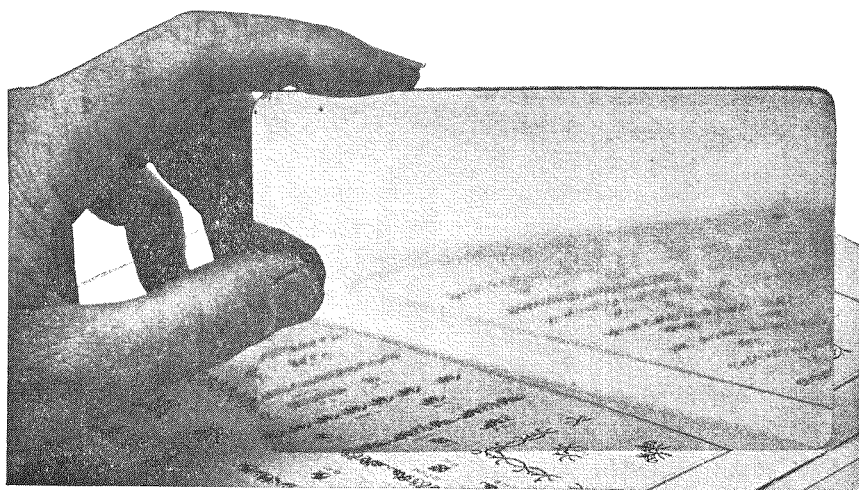


FIGURE 56

A Mirror Shows How the Corner Will Look


A *Wide Variety of Corners* may be formed by mitering border designs at different points. Naturally some of the effects will be better than others; a small mirror will be found most useful in determining the best place to cut. (A polished metal mirror without frame or bevel is best.) Hold the mirror at a forty-five degree angle and move it along the border as shown in Figure 56. The operator should be careful to cut all corners at exactly the same point in order to make the design symmetrical.



FIGURE 57

Many Corners from the Same Border by Mitering

Matrix slides, generally speaking, are made to center the face, or design, upon the smallest possible body. (Exceptions are noted in the One-Line Specimen book.) However, a small face or design may be cast on any thickness of slug larger than the design. Any extra added thickness of the slug will be cast all on one side of the design. Thus in casting a rule for use under a running head of a book, for instance, the rule slug can be leaded out to any desired space between the rule and text by merely casting the rule on the edge of a thicker slug.

Some matrix slides can be cast in combination with border matrices when it is desired to cast decorative end pieces on head rules, or when a decorative corner is desired with a rule border. The following illustration shows the special positioning of 6-point rule slide No. 505, used in combination with 12-point border matrix No. G4L () .



The border and corner pieces were cast on a 12-point slug, in one piece. The border matrices were placed in the first elevator jaws at the end of the border block. On a 30-pica Linotype, a block shorter than 30 picas must be used. No spacebands are needed when casting border. The block is made to exact pica measurements, and automatically spreads the vise jaw to open the pump stop.

Border Matrices are made in many designs and sizes. Each unit or section of a design is made as a separate matrix, similar to the regular letter matrices of a font. The matrices are all interchangeable in a line and can be used in various combinations, thus producing many border designs and a wide variety of ornaments.

Corner matrices are available with many borders. Frequently a matrix from some other design will make an appropriate corner for a border, as long as harmony of design is maintained. When a corner matrix unit is used with repeating border units, the corner matrix is cast on the end of a slug and the slugs are put together with lapped corners. (See Figure 55.)

Border matrices are made in sizes from 6 point to 36 point. Most are made in exact pica or nonpareil units, and therefore no spacebands are needed when casting a line, the line automatically spreading the vise jaw to open the pump stop. The matrices may be placed in the assembling elevator and sent in just the same as a regular line, or may be placed directly in the jaws of the first elevator, as is done with the border block. Proceed with the recasting, just as if using the border block.

Ruled Forms

THERE ARE three commonly used methods of producing ruled-form composition on the Linotype: using the regular vertical rules and leaders from any font; using special vertical leaders; or by using a set of special ruled-form matrices. As such forms usually are composed, for the most part, of vertical and horizontal rule or leader lines, the production is, to a large extent, simply a matter of recasting.

On long runs of this class of jobs, many press impressions can be saved by recasting the forms, and running several up.

Check Up on the Material. The operator about to set or compose any class of rule work or figure work, and where proper alignment of the “down” rules, “cross” rules and figures is desired, should observe the following rules as to both machine and matrix conditions, and which may, if ignored or neglected, result in an improperly aligned table or form:

1. The spacebands should be clean and free to slide.
2. Care should be taken to see that no bent, dirty, or wrong font matrices are placed in lines.
3. Lines should have the same number of spacebands in them, also the same proportion of properly filled lines should be observed, not one extra full and the next less filled.
4. Should the job require the reversing of “cross” rule matrices between “down” rule matrices, the same units of matrices should be replaced between their respective “down” rules.

LINOTYPE KEYBOARD OPERATION

5. The job, especially rules, should be cast in the same position in the first elevator, for uniform alignment, and therefore if possible cast all lines in the light-face position.
6. The slug size, or thickness, should be proper and not over body size, which would allow "breaks" or white space between the "down" rules.

F. D. HARVEY & COMPANY
Daily Report

Date _____ Job. No. _____

Foreman _____

Name	No.	Date	Hours	Loans

Name	No.	Date	Hours	Loans

FIGURE 58
The Heading of the Above Illustration, Separated by 2-point
Leads to Show the Individual Lines

7. When a line or lines have been cast, and it is desired to change the position of one or two characters to make a better line-up (the line being held in first elevator), no additional matrices should be inserted in line unless their equal is removed. For example, suppose one or two of the "down" rules in a head line required shifting of position for better line-up, and the variation was slight, do not put in an additional hair space or spaces to correct. Instead, remove a thin space and exchange it for multiples of hair spaces; with this done, place one or two of these multiples on the opposite side of the rule to be shifted or moved, and the bulk of the multiples back to the space from which the thin space was taken.

The reader should understand that paragraph seven especially refers to matrices having no unit comparative size, like reading characters, and not to the regular table or unit-size characters, which are self-aligning if used in proper multiples.

Vertical Rules and Leaders. In using the regular leaders and vertical rules from any font of matrices, the operator is limited to one face of rules for the vertical columns. However, in many forms, this is sufficient. Figure 58 shows a simple form, set with the regular vertical rules and fine hyphen leaders.

Detailed Explanation of the Setting of the Form. The composition of the body part of the form consists of the mere setting of one line of leaders and rules and recasting, then one heading line. First ascertain the number of leaders which are desired between the rules of the various columns, and the number of slugs necessary to fill up the space of the job. Set the left vise jaw and assembler slide two picas wider than the measure of the form, in order to get at least two spacebands and em spaces in front of the leader matrices. Then assemble a line of leader and rule matrices in auxiliary position (on the duplex rail of the assembling elevator). If the font being used is italic, it will then be necessary to lower the rule matrices to normal position, on account of the small capital character on the rule matrix. Turn the recasting block to operative position, lock the spaceband lever pawl, and send in the line in the usual manner. Recast a sufficient number of slugs with the rules, as illustrated below, to put one between each two lines of leaders in the finished job, and four extra for around the head and foot rules, thus spacing the leader line to the desired width and retaining a solid line for the rule column.

| | | |

After casting the requisite number of lines of this sort, turn the recasting block to its normal position, *and with the spaceband lever pawl still locked*, start the machine again. This will allow the *leaders* to drop into normal posi-

tion, in line with the mold, casting *leaders and vertical* rules. Continue the recasting process until the requisite number of slugs like this are produced:

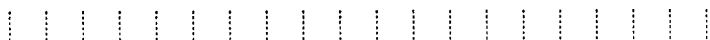


Then assemble the lines, alternating with the rule slugs, and the rule and leader slugs. (See Figure 58.)

In setting the heading line, it is usually necessary to use hair spaces of varying thickness to obtain a line-up of the rule lines. The rules at the top and bottom and the first rule under the heading are brass rules. However, Linotype rules may be used at the top and bottom.

When a form of this kind is being locked for the press, care must be used to plane down the *blank* end of the slugs which are between the leader lines, or the vertical rules will show a distinct break in alignment.

Vertical Leaders. Blank rule forms of any size can be composed very easily on the Linotype by the use of leader matrices punched vertically (:) instead of horizontally (___). The production of these forms is simply a matter of recasting. Determine exactly the amount of space required between the horizontal leader lines, set a single line of matrices with the vertical leaders, properly spaced, and recast a sufficient number of slugs to fill the required space. The vertical leader which will be at the bottom of the form, when made up, should be indented the same amount as is used between lines. The accompanying line shows the vertical leaders as they appear on the slug:



The slugs are placed vertically in the form. Continuous strips of brass rule of any face can easily be inserted between the slugs where desired. (See Figure 59.)

The statement and index card shown in Figure 59 were set with 12-point vertical leaders. The horizontal and vertical rules are brass. The headings inside of the boxes were set centered on separate slugs.

Vertical Leaders are made in 6- to 30-point sizes in the following styles: 6 point, 2, 3 or 4 dots and 2, 3 or 4 strokes; 8 point, 4 or 6 dots and 2 or 4 strokes; 10 point, 6 dots and 2, 4 or 6 strokes; 12 point, 2, 4 or 6 dots and 2, 4, 6 or 8 strokes; 14 point, 6 strokes; 18 point, 9 strokes; 24 point, 12 strokes; 30 point, and 36 point, 14 strokes.

The width of columns is regulated by the number of slugs used. When 6-point slugs are used the column widths, or distance between down rules, will be multiples of 6 point, and with 12 point, multiples of 12 point. Spacing between horizontal rule or leader lines may be varied to suit any requirement. The matrices are all made on a uniform setwise size of .0553, or 4 points.

NUMBERS	WEIGHT	PRICE	AMOUNT			

FIGURE 59

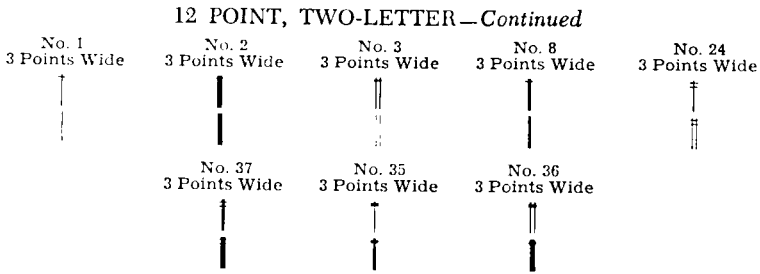
Ruled-Form Matrices. For the composition of the most intricate rule or leader form, special ruled-form matrices should be used. The matrices are made in two-letter form in four sizes: 6, 8, 10 and 12 point; and also for one-letter display and 18- and 24-point two-letter display. Characters Nos. 4, 5, 6, 7, 18, 19, 20, 21, 22, and 23 align with the cross stroke or strokes appearing on the top of the vertical rule characters.

The following is a complete list of characters used in the two-letter 12-point size. Other sizes use similar matrices:

12 POINT, TWO-LETTER

No. 4 2 Points Wide - 	No. 5 3 Points Wide - 	No. 6 6 Points Wide -- 	No. 7 12 Points Wide --- 	No. 22 18 Points Wide -----
No. 23 24 Points Wide ----- 	No. 18 2 Points Wide = 	No. 19 3 Points Wide = 	No. 20 6 Points Wide = 	No. 21 12 Points Wide =

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The decimal equivalents of the above matrices are as follows: 2-point characters .0277, 3-point characters .0416, 6-point characters .0833, 12-point characters .1666, 18-point characters .250, 24-point characters .3333.

Twelve-Point Ruled-Form Matrices. Figure 60 shows an example set with 12-point ruled-form matrices. As in other ruled-form composition, this is mostly recast, once the proper cast or space between rules has been decided. The heading slugs in the illustration have been recast and are shown at the bottom of the illustration, slightly separated to show how each line was set. It is frequently necessary to use hair spaces to obtain a line-up of the rules where variable length words occur in a heading line.

Special Figures with overline for use with the box and rule matrices are made with a hair-line stroke over the figure, the stroke aligning with the horizontal character of the box and rule matrices when used in the same line. These figures are used for line numbers in sales slips. The 12 point is used for 12-point spacing between lines, and the 18- and 24-point sizes for lines spaced up to 18 and 24 points. The following is a list of the characters available in the 12-, 18-, and 24-point sizes:

12 POINT, TWO-LETTER

No. 25	No. 26	No. 27	No. 28	No. 29	No. 30	No. 31	No. 32	No. 33	No. 34
1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0

Width of character, 4 points or .0553

18 POINT

No. 25	No. 26	No. 27	No. 28	No. 29	No. 30	No. 31	No. 32	No. 33	No. 34
1	2	3	4	5	6	7	8	9	0

Width of character, 6 points or .0833

24 POINT

No. 25	No. 26	No. 27	No. 28	No. 29	No. 30	No. 31	No. 32	No. 33	No. 34
1	2	3	4	5	6	7	8	9	0

Width of character, 7 points or .0968

The figures used at the left of Figure 60 illustrate the use of the 12-point figure matrices with the overline character.

The horizontal rules above and below the heading line are brass.

NO.	NAME OF BOAT	HATCH	BUSHELS	GRAIN	ACCOUNT
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

NO.	NAME OF BOAT	HATCH	BUSHELS	GRAIN	ACCOUNT
1					

FIGURE 60

The Heading of the Above Illustration, Separated by 2-point Leads to Show the Individual Lines

<p style="text-align: center;">MENDON NATIONAL BANK HANTON, WYOMING</p>	<p style="text-align: center;">RETURN AFTER FIVE DAYS TO MENDON NATIONAL BANK HANTON, WYOMING</p>	<p style="text-align: center;">A. C. MENDON, PRESIDENT R. B. MENDON, VICE-PRESIDENT B. M. LEWIS, CASHIER H. S. MCMASTERS, ASST. CASHIER</p>
<p style="text-align: center;">PLEASE NOTICE</p>	<p style="text-align: center;">TELEPHONE, GREEN 200</p>	<p style="text-align: center;">"STANSICO PERMANENCY"</p>
<p style="text-align: center;">IF DESIRED, OUR COUPON INVESTMENT CERTIFICATES MAY BE MADE PAYABLE TO EITHER ONE OF TWO PERSONS. FOR INSTANCE, JOHN SMITH CAN HAVE A CERTIFICATE MADE PAYABLE TO JOHN SMITH OR MARY SMITH (HIS WIFE OR DAUGHTER).</p>	<p style="text-align: center;">MES STANFORD, PRESIDENT</p>	<p style="text-align: center;">55 LIBERTY AVENUE ALGANTON, N. Y.</p>
<p style="text-align: center;">STANFORD, SIMONS & CO. INCORPORATED BUILDERS</p>	<p style="text-align: center;">FIGURE 61</p> <p style="text-align: center;">Related Stationery in Lining Gothic No. 31 Series</p>	

Lining Faces

MATRICES FOR the majority of fonts are made so that the characters align at the top of the slug. Matrices for lining faces, however, are made so that the various characters align at the bottom, enabling the operator to mix sizes to produce a capital and small-capital effect.

Lining gothics are made in four sizes each of 6 point and 12 point. The 6-point and 12-point sizes are two-letter matrices, usually combining light and heavy face characters.

Lining Memphis Light with Memphis Bold and Lining Metromedium with Metrothin are made in three sizes each of 6 point and in four sizes each of 12 point. The sizes of 6 point are on the same alignment and will cast on a 6-point slug. The sizes of 12 point are on common alignment and will cast on a 12-point slug. To align any of the 6-point sizes with the 12 point, cast the 12 point on a 6-point slug overhanging, and the 6-point line on the second slug will align perfectly at the bottom with the 12-point overhanging characters.

Three sizes of lining faces are usually run in one magazine: one set in the lower-case section; one in the capital section; and the third in the small-capital channels. Keyboard diagram number 98 covers such an arrangement. On a machine equipped with side magazine unit, a fourth size may be used from the auxiliary magazine. Keyboard Diagram 138 should be used where two sizes of lining faces with figures are required.

The illustration (Figure 61) shows a few samples of work which may very appropriately be set in gothics.

This style of composition is also very frequently used in announcements, cards, tickets, bank statements, and similar jobs.

On account of this composition being all capitals, slightly wider spacing should be used than in ordinary capital and lower-case composition.

Tabular Composition

THE CASTING of a piece of tabular composition on the Linotype is comparatively easy, once the operator gets the proper idea of how it should be done. In the setting of a table on the machine, the procedure is much the same as it would be by hand.

Matrix Equalization Chart. In Figure 62 is presented a table of comparative sizes of the various characters used in tabular composition. A careful study of this chart will enable the operator to set tabular matter very rapidly and accurately.

The Spaces. On the keyboard there are three thicknesses of spaces: The em space, the en or figure space, and the thin space. Two en spaces always equal one em. In most fonts, two thin spaces equal one en; four thin spaces equal one em. The thin space is always the same thickness as the period or comma. In the smaller faces, such as 6 point or smaller, the thin spaces are a little thicker than four-to-em, and two thin spaces are thicker than an en. This must be watched particularly, and if space is to be allowed for two periods or commas in small type, then two thin spaces must be used. Tabular figures are always cut on the en body and equal, in thickness, the en space.

Thin Space Body	En Space Body				Em Space Body			
Comma	*	†	‡	§	1/8	1/4	3/8	1/2
Period	¶	\$	¢	£	5/8	3/4	7/8	1/3
Rule	[	]	-	.	2/3	1/5	2/5	3/5
Apostrophe	1	2	3	4	4/5	1/6	5/6	..
Quotation	5	6	7	8	%	@	fb	—
Thin space	9	0			em space			
	fig. space							
	1/8	1/4	3/8	1/2				
	5/8	3/4	7/8	1/3				
	2/3	1/5	2/5	3/5				
	4/5	1/6	5/6	1/7				
	2/7	3/7	4/7	5/7				

FIGURE 62

The leaders are always on the same width matrices as the em and en spaces and are interchangeable as to space.

When the em and en spaces are raised on the duplex rail they become leader matrices. When the leader matrices are raised they become spaces, except in italic fonts, where the en leader casts a small capital L when raised on the duplex rail.

For the exact centering of headings or words in a table, hair spaces may be used.

Care Must Be Exercised to Obtain Proper Alignment. In order to obtain correct alignment in tabular composition, avoid the use of bent or dirty matrices. A wrong font matrix will cause irregular alignment. Watch particularly for wrong font quads or spaces and space rules. All space matrices of the same point-size are not necessarily the same point-set, therefore the

em, en, or thin spaces cannot be mixed. For example, a 10-point figure space of one font may be .0692", while the figure space of another 10-point font may be some other thickness.

The Stub. The first part of a table, containing words or leaders, is called the "stub." This may vary in width to use up all space not occupied by the figure columns. The spacebands should be used in the stub, but all the

Instruction Envelopes	\$12.00
Individual Order Summary	10.00
Trade Composition Instruction Envelopes	8.00
Trade Composition Individual Summary	13.00
Composition Daily Hand Work Report	7.50
Machine Composition Daily Report	2.75
Press Daily Report	11.50
Cutter Daily Report	10.65
Folding Machine Daily Report	9.75
Ruling Machine Daily Report	9.85
Bindery Daily Hand Report	10.00
Combination Time Tickets	25.00
Employee's Daily Pay Roll . . . . .	.90
Weekly Pay Roll . . . . .	.75
Monthly Individual Pay Roll Sheet	6.95
Monthly Report of Hand Departments	22.50
Monthly Report of Machine Departments	47.50
Yearly Record of Cost and Production	50.00
Perpetual Stock Inventory Records	25.50
Summary Department Cost	9.75
Standard Estimate Blanks	23.60
Equipment Inventory	6.50
Composition Layout Sheets	2.16
Standard Proposal Blanks	10.85
Standard Estimate Forms	9.75

FIGURE 63

spacebands should be used *before* the leaders. In case of one word in a line, it is necessary to use a spaceband between the word and the leaders. It is best to place more than one spaceband in each line if possible. Particular care should be used to avoid wide spacing in the stub. The spacebands always drive up until the line is tight. As a rule, not many spacebands are used in each line. Therefore, unless the line is well filled with matrices, the few spacebands will have to drive up, causing wide spacing.

To determine the end of stub where the table has a column of figures, as in Figure 63, set a whole line, then take out all the figures over to the leaders.

Bring the assembler slide back to the star wheel. Make a mark with a pencil on the slide and on the assembler plate. The two lines coinciding will indicate where the stub ends.

The leaders of the stub should always align in front of the figure column. Leaders may be run up to the dollar sign, but should not be permitted to run closer than one en space to figures. This will avoid any possible confusion of a leader with a decimal point. Maintain the leader alignment by dropping spaces in front of the figures, equal to the variation of the figures in the column.

Uniformity of capitalization should be maintained in the stub. Tabular copy is generally edited as to words and figures, but not as to capitalization. Figure 63 shows a table with a long stub.

The Multiple Column Table. When a table contains more than one column of figures, as shown in Figure 64, the units of each column should all align. The space between the columns is largely determined by the amount of space available. However, to be legible do not use more than two ems before the largest figure line of the second column if possible to hold down to that amount. In a crowded table as little as an en space may be used.

In figuring out the cast of a table, always be sure that you are allowing sufficient space to accommodate all the figures of each line. The total line, always being the longest, should therefore be set first. The length of the longest line in the stub should be considered when deciding the amount of space between columns of figures. Also, the heading over the column must be taken into consideration. In case of a long heading over small figure columns, it may be necessary to separate the columns more than usual. Speed in the composition of tabular matter is largely dependent upon the memory of the operator as to just how many spaces it is necessary to drop in front of a varying column of figures. Where the various figure columns of a table are nearly equal, composition will be easier if the same space is allowed for each column.

The total rule lines are made by using em dashes. In case the column contains an uneven number of figure spaces, let the total dash extend an en to the left of the dollar sign. En dashes are available as side sorts for use in extreme cases. The total dash can usually be recast, saving time.

The Dollar Sign. Each column of a monetary table should begin with a dollar sign. A dollar sign should also be used on the total line. If more figures follow in the same table, the dollar sign should then be used with the first line of the succeeding part (see Figure 64). Style varies in space around the dollar sign where the first number is shorter than the total. Some printers maintain an alignment of dollar signs by placing space between the sign and the first figure when it is necessary. The modern tendency, however, is to place the dollar sign against the figure, adding the necessary space before the character to maintain leader alignment.

Centering Headings over Columns. Headings should be made to appear centered over columns. This sometimes will necessitate actually placing a heading a little out of center where the top of an open column is very narrow, while other parts of the column widen out.

RECEIVED	1956	1957
Dues and Assessments	\$9,742.27	\$12,264.52
Waste Paper		7,749.92
Collections and Donations	12,648.01	17,371.02
Meetings and Picnics	261.85	1,780.27
Cost Division (1 mo.)		707.50
Total Receipts	\$22,652.13	\$39,873.23
EXPENDED		
Salaries and Hotel	\$4,396.19	\$5,667.00
Rent and Heat	550.00	427.02
Collections	12,648.01	17,371.02
Waste Paper		7,418.74
Postage and Parcels Post	604.76	794.34
Furniture and Fixtures	196.23	487.96
Printing and Binding	994.84	1,142.13
Picnics, Meetings, Etc.	688.38	2,330.54
Telephone and Telegraph	215.40	216.43
U. T. & F. of A. Dues	1,776.25	2,608.00
Miscellaneous Expenses	502.07	1,140.05
Total Expenses	\$22,572.13	\$39,603.23

FIGURE 64

To center a figure heading over a figure column is simply a matter of mathematical calculation. As an example, see the last column of Figure 64. There are nine en spaces in the column, counting the period and comma, combined, as one en. There are four en spaces in the heading, leaving a difference of five en spaces. Half of this space (one em and one thin space) should be placed on each side of the heading.

Variable Words Centered over Figure Columns. To center headings composed of variable width words over columns of figures (Figure 65), the operator should first compose at least one line of the body of the table (preferably the total line) and place the slug before him on the copyboard; run down the matrices required for the various headings, separating the words with any space matrices to fill the line, dropping a few spacebands *before* the first word. Lift the matrices following the spacebands from the assembling elevator and place them on a slug on the copyboard. Turn the words to be centered on end, with the top of the matrix toward the operator, leav-

ing all of the space matrices in a vertical position. Using the eye as a gauge, the space matrices may then be shifted to bring each heading centered over its column. A piece of metal furniture placed at the right end of the slug, and used as a square to build against, will facilitate handling. Figure 66 shows the matrices and metal furniture assembled on the copyboard.

	Manu- facturing Cost	Selling Cost	Office Expense	Total Cost
Total	\$13,400.00	\$4,100.00	\$1,400.00	\$18,900.00

FIGURE 65

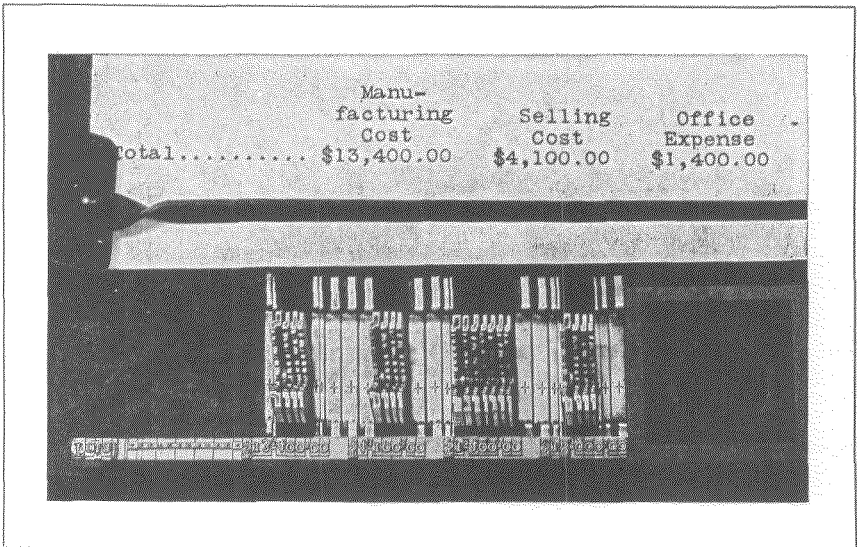


FIGURE 66

Vertical Rules. When it is desired to separate the various columns of a table with rules, use the vertical rules from the regular font of matrices, aligning the rules on each slug with those in the adjacent line. When brought together, a continuous line is formed. (See Figure 67.) The face must be of the same body thickness as the rule used. For example, if 10-point rules are used, the type must be on a 10-point slug, in order to have the rules join properly.

The leaders in the stub should run entirely up to the rules. The rules may be run flush against the right side of the figure column, or space may be

added between the rule and the figures, as space permits. If space is used between the rule and the figure on the right side of the column, a like amount should ordinarily be used between the rule and the figure on the left side, in order to keep the figure column in the center of the space between rules.

Districts	1957	1956	1955
Allegheny, 1st	7,858,414	7,146,699	6,415,611
Armstrong, 2nd	566,771	649,174	577,923
Beaver, 3rd	236,587	267,863	135,752
Bedford, 4th	319,575	430,804	288,753
Blair, 5th	281,237	351,299	269,211
Bradford, 6th	52,467	57,711	25,474
Butler, 7th	223,015	220,895	134,334
Cambria, 8th	14,889,048	4,461,629	3,005,261
Cameron, 9th .....	.....	.....	.....
Centre, 10th	445,268	303,813	174,548
Clarion, 11th	364,782	428,675	401,088
Clearfield, 12th	4,889,793	5,442,299	4,156,310
Clinton, 13th	134,568	94,682	100,000
Elk, 14th	799,699	602,428	515,070
Fayette, 15th	8,562,571	10,124,541	6,648,183
Greene, 16th .....	.....	627	.....
Huntington, 17th	333,395	289,092	187,070
Indian, 18th	292,029	483,795	406,878
Jefferson, 19th	4,717,363	4,528,774	13,407,481
Lawrence, 20th	198,666	227,599	135,411
Lycoming, 21st	87,730	38,207	19,844
McKean, 22nd	56,989	38,207	80,160
Mercer, 23d	502,317	502,945	297,662
Potter, 24th .....	.....	.....	.....
Westmorland, 25th	8,266,705	10,325,245	7,739,080

FIGURE 67

A boxed heading can easily be made for this kind of table on the machine. Cast four slugs with just the rule matrices, in alignment with the rules in the columns. Place one above the heading, two between the heading and the body of the table, and the fourth at the foot of the table. Then place brass rules horizontally across the table. Use double hairline rules at the top and bottom, and a single hairline rule between the slugs underneath the heading. The slugs with the vertical rules hold the horizontal brass rules away from the figures, giving ample white space around the heading. Linotype-cast rules may be used across the head and foot of the table.

The heading in a box, being entirely surrounded by rules, should be in exact center. Figure 67 shows an example set with machine vertical rules, with a box heading spaced on the machine. The horizontal rules are brass.

Solid Figure Lines. In tables composed entirely of figures, or where there is no variable stub, set the vise jaws about two picas wider than the measure of the job, and thus two spacebands and quads may be placed in front of each line. It is then necessary merely to drop sufficient leaders to bring the first figure flush at the left of the slug. Use the same number of leaders and figures in each line. Figure 68 illustrates an all-figure table, set as described above. In case there are no leaders, of course the columns must be spaced to bring the first figure flush to the left. Always use the spacebands at the beginning of a table where possible.

Weekly Deposit	One Year	Three Years	Five Years	Eight Years	Ten Years
\$1.00.....	\$53.57	\$170.70	\$302.53	\$531.93	\$709.08
2.00.....	108.14	341.10	605.06	1063.86	1418.16
3.00.....	160.71	512.10	907.59	1595.79	2127.24
4.00.....	214.28	682.80	1210.12	2127.72	2836.32
5.00.....	267.85	853.50	1512.65	2695.65	3545.40
6.00.....	321.42	1024.20	1816.18	3191.58	4252.48
7.00.....	374.99	1194.90	2117.71	3123.51	4963.56
8.00.....	428.56	1365.60	2420.24	4255.44	5672.64
9.00.....	482.13	1535.30	2722.77	4787.37	6381.73
10.00.....	535.70	1707.00	3025.30	5419.30	7090.80

FIGURE 68

Vertical Headings. When headings are too wide to be placed over the columns horizontally, they may be set on short slugs and placed in the form vertically. The words on the heading slugs should align across next to the rule between the body matter and table. Indent the words approximately the same amount used between the rule and the body matter. The heading should read up, as shown in Figure 69. The rules in the heading may be either brass or Linotype-cast, using the border block and a hairline rule slide. Space the rules to exact alignment with the rules in the body part of the table.

Two Variables on One Slug. Ordinarily when two variables occur in one line, and tabular effect is desired, it is best to set the matter on separate slugs. However, in a few cases, illustrated in Figure 70 where the first variable is rather short, the line may be placed all on one slug. Select the longest word (in this case Mar.) and, by laying the matrices out on the copyboard, build up with space matrices to the nearest even-em cast which will accom-

BRANCHES	FINE ARTS	LITERATURE	TRAVEL	BIOGRAPHY	HISTORY	TOTAL
Central Building	3,859	7,769	2,704	4,245	2,887	21,464
Children's Room	1,004	954	621	772	985	4,336
Travelling Libraries	2,492	7,316	5,677	4,264	5,934	25,683
Library for Blind	5,577	1,066	268	413	529	7,853
Chatham Square	932	3,612	776	1,088	1,622	8,030
Seward Park	997	5,168	1,094	1,963	2,592	11,814
Rivington Street	909	3,935	529	752	1,499	7,624
Hamilton Fish Park	1,026	3,622	778	1,337	2,113	8,876
Bond Street	767	2,260	639	1,045	1,107	5,818
Hudson Park	1,114	2,169	854	998	1,257	6,392

FIGURE 69

modate the word, plus the necessary space preceding the figure following. It may be necessary to use hair spaces to bring all words to this even-em standard. By using the em or en spaces as the standard, and by feeling across with the fingers, the first variable can be eliminated with accuracy. Use the spacebands in the second variable column.

Feb.	3	Announcement Cards	\$2.75
	7	Little Envelopes	2.25
	6	Membership Cards	2.25
	18	Announcement Cards	3.50
	23	Announcement Cards	2.75
Mar.	31	Stationery	5.75
		Envelopes	4.27
		Constitutions	37.50
		Announcement Cards	3.25
May	25	Announcement Cards	5.50
	29	Announcement Cards	5.50
Oct.	10	A. C. and Application Blanks	7.25
	2	Announcement Cards	2.75
Dec.	20	Folders	4.50
	20	Entry Cards	4.25
Jan.	17	Hostess Cards	5.00
Total of Printing Expense			\$99.02

FIGURE 70

Self-Spacing Faces

FOR THE composition of tabular matter, tariff work, code work, or jobs where it is desired to make more than one justification on one slug with speed and accuracy, several special type faces have been designed. These faces have been made with the number of the unit sizes reduced to the lowest limit.

Figures 71 and 72 show two of these self-spacing faces: In 6 point No. 17 with Condensed Title No. 5 (Figure 72) there are but four setwise sizes on

6 POINT NO. 11 with GOTHIC NO. 4
List showing characters made and their unit sizes:

Pts.	Characters
2	f i l , . ' ' Hyphen Thin Sp. Size, .0277
2½	f j r s t v : ; | I Size, .0346
3	a c e g o x y z ? J Size, .0415
3½	b d h k n p q u fl fl Figures \$ En Ldr. En Sp. En Dash * () Size, .0484
4	w ff A B C D E F G L N O P Q R S T U V X Y Z & Size, .0553
5	m fl fl H K M W Size, .0692
7	Em Ldr. Em Sp. Em Dash @ lb £ % ¼ ¼ % ¼ % ¼ % Size, .0968

FIGURE 71

6 POINT NO. 17 with CONDENSED
TITLE NO. 5
Tariff face on 2-point Unit Basis
List showing characters made and their unit sizes:

Characters	Pts.
f i j l t , . ' ' | Thin Space Size, .0277	2
I J S Z a b c d e g h k n o p q r s u v x y z fl fl ; ? ! () [] - .. £ ¤ / - Figures En Fractions * † ‡ § ll ¶ En Space Size, .0553	7
A B C D E F G H K L M N O P Q R T U V W X Y & m w fl fl æ œ — ... lb @ Size, .083	6
Æ CE % Em Fractions Em Space Size, .1107	8

FIGURE 72

a two-point unit basis; in 6 point No. 11 with Gothic No. 4 (Figure 71) there are seven setwise sizes. Figure 73 shows the 8-point size of No. 17 with Condensed Title No. 5.

With the characters all cast on a known unit basis, alignment at any desired point in the line is simply a matter of easy mathematical calculation. When variable columns are to be aligned on one slug, space between words with matrices, using the spacebands as near the left end of the line as convenient, but not between the words which are to align.

Figure 73 illustrates the many possibilities of these matrices. Every line of the table, including the box heading, was set on the Linotype, using the regular machine rules between columns.

MARGIN OF SAFETY OVER CURRENT RAILROAD DIVIDENDS

This table sets forth the percentage earned on the preferred and common stocks, as per the last annual reports, the present dividend rate, the percentage earned in excess of the dividend—or in other words the margin of safety—and also the percentage earned on the stocks taken at the market prices as of **December 31, 1923**, or the last previous sale.

Name of Security	Year Ending	% Ernd.	Prs. Div.	Mrgn. of Sfty.	List Price	Ernd on Last Price
Atchison.....	Dec. 31, 1922	27.60	*5	22.60	86	32.09
D., L. & West.....	Dec. 31, 1922	12.39	12	0.39	112	5.53
Atlantic Coast Line...	Dec. 31, 1922	15.40	7	8.14	113	13.40
Balt. & Ohio, Pfd.....	6 mos. Je. '23	21.26	2	19.26	59	36.03
Com.....	6 mos. Je. '23	7.61	2	5.11	59	12.60
Can. Pacific.....	Dec. 31, 1922	11.66	10	1.66	146	7.98
Ches. & Ohio.....	Dec. 31, 1922	10.06	4	6.06	72	13.97
Chi. & No. West.....	Dec. 31, 1922	5.05	4	2.05	51	9.90
Chi. R.I. & Pac. 7% Pfd.	Dec. 31, 1922	14.57	7	7.57	77	18.92
6% Pfd.....	Dec. 31, 1922	8.06	6	2.06	66	12.21
Clev. C., C. & S. L., Pfd.	Dec. 31, 1922	80.35	*5	73.35	86	93.43
Colo. & So. 1st Pfd.....	Dec. 31, 1922	9.82	4	5.82	50	19.64
Colo. & So. 2nd Pfd.....	Dec. 31, 1922	5.82	4	1.82	38	15.32
D. L. & West.....	Dec. 31, 1922	12.39	12	0.39	112	5.53
Gt. North., Pfd.....	Dec. 31, 1922	4.36	5	.....	55	7.93
Havana E.R., Lt. & P. Pfd	Dec. 31, 1922	10.67	§6	4.67	100	10.67
Com.....	Dec. 31, 1922	6.67	6	0.67	95	7.02
Illinois Cent.....	Dec. 31, 1922	15.04	7	8.04	102	14.74
Kansas City So., Pfd...	Dec. 31, 1922	7.55	*4	3.55	53	14.25
Leh. Valley.....	Dec. 31, 1922	16.59	7	9.59	61	13.60

FIGURE 73










Diagram Showing Clutch Lever Positions (Speed of Driving Pulley 800 Revolutions per Minute)										Time Required to Travel One Inch	
										Inches	
Spindle Speeds—Approximate Revolutions per Minute	284	180	118	88	55	36	32	20	13		
Screw Thread Cutting		1/8	1/8 3/4	3/4 1/8	7/8 7/8	13/4 1 3/4	1 7/8 1 3/4	1 7/8 2 7/8	2 1/8 4 1/8		
Turning Speeds for Carbon Steel	1/4 5/8 1/8 7/8	3/8 1/4 7/8 3/8	3/8 7/8 1 3/4	1/4 1 3/8 1 5/8 1 3/4	1 5/8 2 3/8 2 1/4 2 1/8	2 5/8 3 7/8 3 3/4 4 1/4	3 3 3/4 4 3/8 4 1/8	4 7/8 5 1/8 6 1/4 7 1/4	7 7/8 8 3/4 10 5/8 11 7/8		
Turning Speeds for High Speed Steel	3/4 1/8 1 3/4 1 1/4 1 5/8	1 1/8 1 7/8 1 7/8 2 3/8 2 5/8	1/4 1 1/8 2 7/8 3 3/4 4 1/8	2 1/8 2 1/8 3 7/8 4 5/8 5 7/8	3 7/8 4 7/8 5 1/8 6 3/4 8 3/4	5 7/8 6 1/4 8 1/8 10 3/8 13 3/4	6 7 1/4 9 1/8 11 1/4 14 1/4	9 3/4 11 3/8 15 5/8	14 3/8 17 7/8		
Turning Feeds (For Gear Feed Machine)	.07 .14 .17 .21 .31	.11 .22 .27 .33 .50	.17 .34 .42 .51 .76	.23 .45 .52 .68 1.0	.36 .73 .88 1.1 1.6	.56 1.1 1.4 1.7 2.5	.63 1.2 1.6 1.9 2.8	1.0 2.0 2.5 3.0 4.5	1.5 2.3 3.8 4.6 6.9		
Drilling Feeds	100 120	.35 .42	.56 .67	1.1 1.3	1.8 2.2	2.8 3.3	3.1 3.7	5.0 6.0	7.7 9.2		

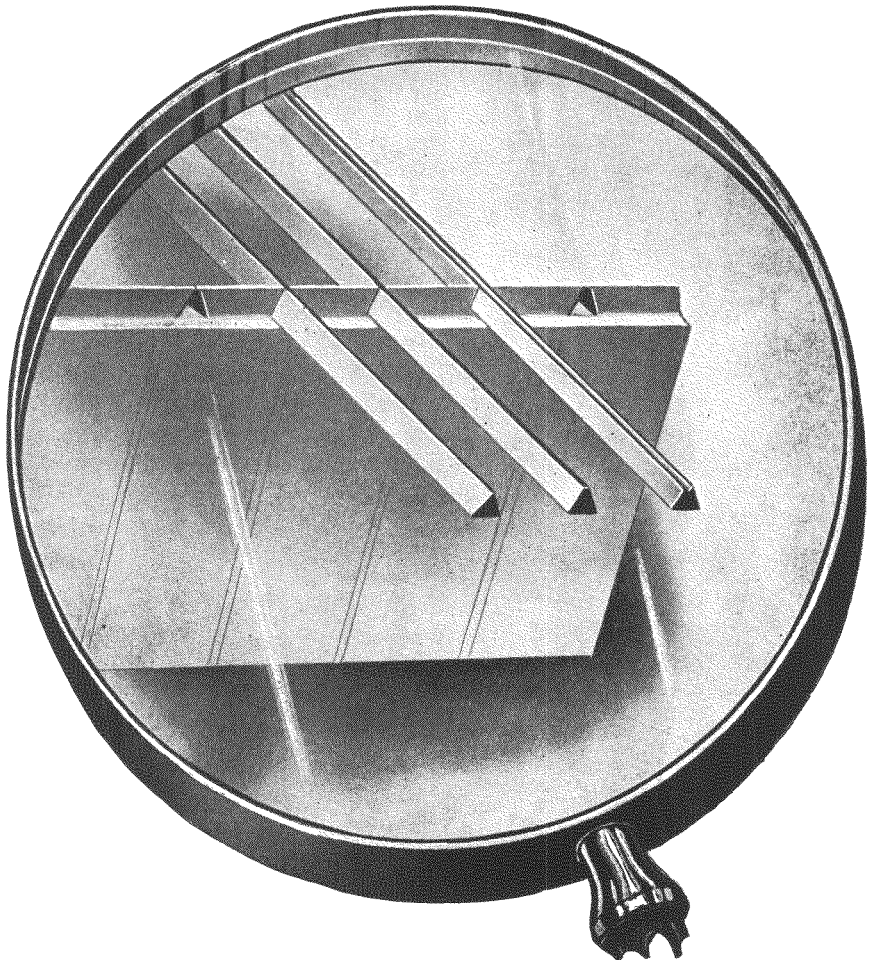
FIGURE 74

Mono-Tabular System

An example of ruled-form work produced with the Mono-Tabular System and Linotype slugs is shown in Figure 74. The equipment for setting ruled forms in this manner consists of a broaching machine which accurately punches triangular slots in ruled Linotype slugs cast with a horizontal rule.

The broaching machine, which is operated either by hand or a foot pedal, has movable punch and die units which can be accurately set at any desired interval. After setting these punches to the desired column widths, the compositor or operator places the horizontally ruled Linotype slugs into the broaching machine, and by pressing down on the handle or foot pedal punches one or more triangular holes, into which special brass rules are later inserted to make up the desired vertical ruling.

Any size of column may be produced by this method, and various sizes as well as kinds of rules may be used. The vertical rules are made of brass,



and can be either cut to the required length on a slug cutter, or inserted in the slugs and cut at the bottom with hand snips. The brass rules are easily inserted in the slugs, are securely held in place by the cross rules on the Linotype slugs, and being entirely above the standard Linotype shoulder height they rest firmly on the shoulders of the slugs.

Operation of the Mono-Tabular broach for punching the triangular openings, and insertion of the vertical brass rules, are very simple operations requiring neither previous experience nor special skill on the part of the Linotype operator or hand compositor. Usual practice is to pre-cast a supply of slugs with the horizontal rule and a supply of blank spacing during slack time and carry this material in stock. Ruled blank forms are generally produced in this manner, the stock materials being broached and assembled to meet the requirements of each job. These, of course, can be multiplied in order to print "8-up" or "16-up" in order to reduce press work on large orders of small forms.

For catalog and statistical tabular pages without horizontal rules, special Mono-Tabular lug-forming matrices are required. These are 6 points in thickness, and are dropped by the operator where the vertical rules are to be inserted. Lug-forming matrices are carried in the vertical rule channel of any Model Linotype magazine, and cast a pair of vertical lugs on the slug. These form a channel into which the brass rules are inserted to form the vertical columns. After the brass rules are inserted in the completed page or form, the channel lugs are crimped together in order to hold the rules securely.

For correction purposes the brass rules can be withdrawn and new slugs inserted as in the case of straight matter. In making such corrections, a close line-up is not necessary on the new slug, since the rule-holding lugs can be dispensed with on an occasional slug without lessening the security of the vertical brass rules.

Linotype machines require no change of any kind to produce vertically ruled tabular matter by the Mono-Tabular System.

Wax-ruled Tables are produced perfectly and economically with Linotype composition. The type matter only is composed and made up to a carefully drawn layout. Electrotypers making these plates mold this type matter and then engrave the rule lines in the wax mold. They use an engraving machine which cuts lines of any desired width or separation. This process is accurate and less expensive than other methods of tabular composition. The following example, Figure 75, shows the possibilities of the wax-ruling process.

MINIMUM FARES							
FARES FOR SUPERIOR ACCOMMODATIONS ARE SHOWN IN SPECIAL FOLDERS							
Between NEW YORK and ports shown below.	First Class		Cabin Class		Tourist Third Cabin		
	Winter (A)	Int. & Summer (B)	One Way	Round Trip Winter (C)	One Way	Round Trip	
						Winter (D)	Summer (E)
S.S. NEW YORKER							
Southampton.....	272.50	300.00	.....	.....	122.50	216.00	231.00
Cherbourg.....	272.50	300.00	.....	.....	132.50	219.00	234.00
S.S. KANSAS CITY							
Cobh (Queenstown).....	.....	.....	155.00	273.00	110.00	194.00	209.00
Plymouth (Eastbound).....	.....	.....	160.00	282.00	120.00	198.00	213.00
Southampton (Westbound).....	.....	.....	165.00	290.50	125.00	206.00	221.00
Cherbourg.....	.....	.....	.....	.....	.....	.....	.....
Hamburg.....	.....	.....	.....	.....	.....	.....	.....
S.S. INDIAN							
Cobh (Queenstown).....	.....	.....	152.50	268.50	108.00	190.00	205.00
Plymouth (Eastbound).....	.....	.....	157.50	277.50	118.00	195.00	210.00
Southampton (Westbound).....	.....	.....	162.50	286.00	123.00	203.00	218.00
Cherbourg.....	.....	.....	.....	.....	.....	.....	.....
Hamburg.....	.....	.....	.....	.....	.....	.....	.....
S.S. CHEROKEE							
S.S. IROQUOIS							
Cobh (Queenstown).....	.....	.....	147.50	260.00	105.00	185.00	200.00
Plymouth (Eastbound).....	.....	.....	152.50	268.50	115.00	190.00	205.00
Southampton (Westbound).....	.....	.....	157.50	277.50	120.00	198.00	213.00
Cherbourg.....	.....	.....	.....	.....	.....	.....	.....
Hamburg.....	.....	.....	.....	.....	.....	.....	.....
S.S. DEMOCRAT							
Cobh (Queenstown).....	.....	.....	132.50	233.50	105.00	185.00	200.00
Plymouth (Eastbound).....	.....	.....	137.50	242.00	115.00	190.00	205.00
Southampton (Westbound).....	.....	.....	142.50	251.00	120.00	198.00	213.00
Cherbourg.....	.....	.....	.....	.....	.....	.....	.....
Hamburg.....	.....	.....	.....	.....	.....	.....	.....
(F) S.S. REPUBLICAN							
London.....	.....	.....	100.00	.....	.....	.....	.....
<p>(A) First Class Winter Season... Eastbound Aug. 25 to Apr. 5... Westbound Nov. 10 to July 10</p> <p>(B) First Class Intermediate and Summer Season... Eastbound Apr. 5 to Aug. 25... Westbound July 5 to Nov. 5</p> <p>(C) Cabin Winter Season, Round Trip Rates... Eastbound Aug. 25 to Apr. 5... Westbound Nov. 5 to July 5</p>							

FIGURE 75

Table by Wax-ruling Process