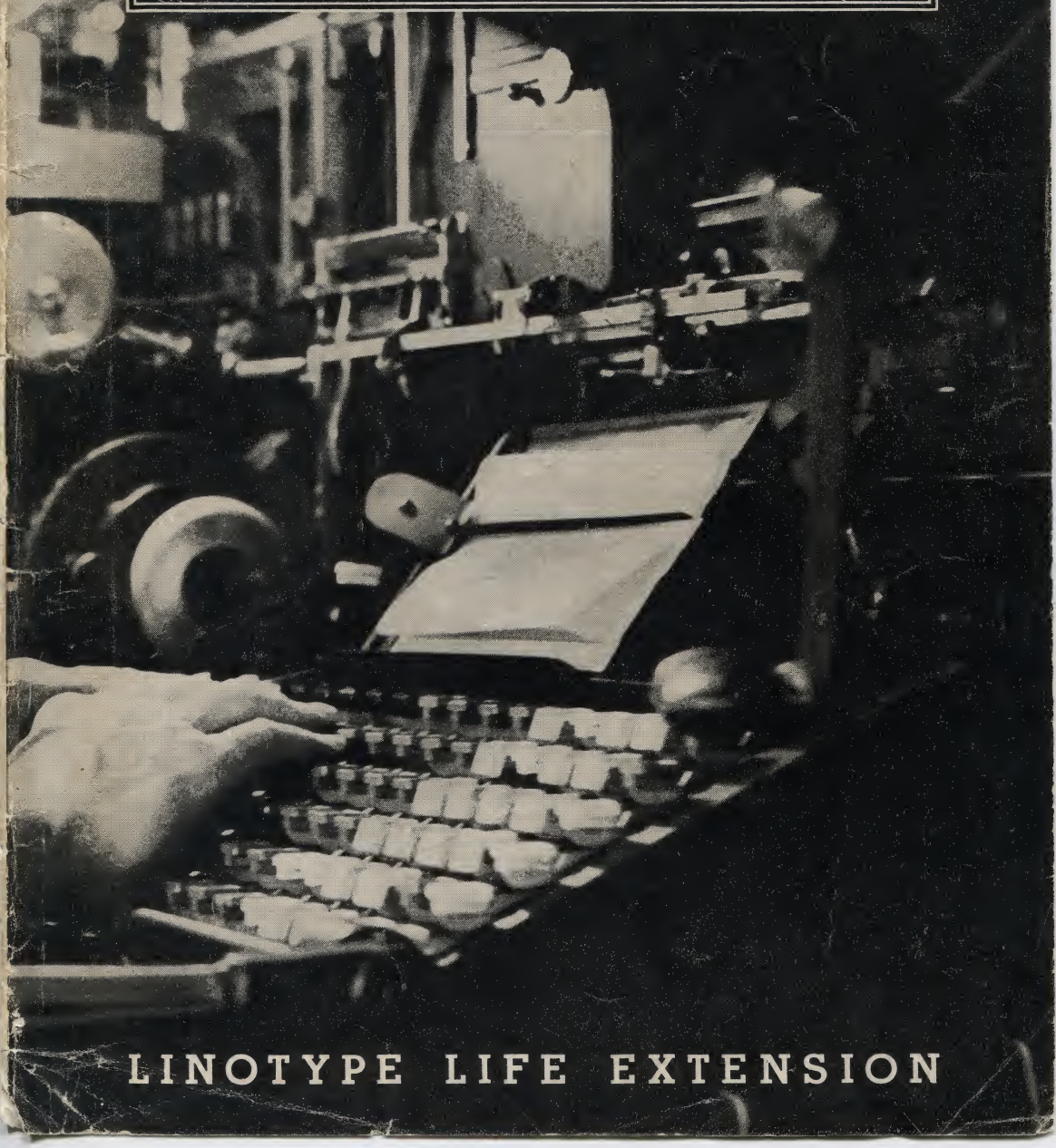
LINOTYPE
Keyboard Practice



LINOTYPE LIFE EXTENSION

Linotype
Keyboard Practice

Abridged Text
of Study and Procedures
for Beginners in
Linotype
Keyboard Operation

MERGENTHALER LINOTYPE COMPANY
BROOKLYN 5, NEW YORK

The Contents of This Booklet

By Way of
INTRODUCTION

THE FOLLOWING PAGES provide in greatly abridged form the elements of simple keyboard practice and some of the fundamentals of keyboard operation. They are intended as an aid to the individual who is unable to attend a recognized school of Linotype instruction and who wishes to acquire proper methods and information regarding the beginnings of keyboard operation.

However, in no sense should this booklet be considered as a complete course of keyboard instruction. Because of the limitation of space, only the most essential information has been included. The book *Linotype Keyboard Operation,* from which these pages are selected *(see page 44),* is an authorized text book for operators. This booklet corresponds to the Linotype Life Extension series, which reprinted sections of *Linotype Machine Principles* (also referred to in the final pages of this booklet).

The degree of skill developed depends almost entirely upon the individual and shop conditions. But emphasis is placed upon the fact that greater progress is assured by attending a properly equipped Linotype school, with supervised instruction.

MERGENTHALER LINOTYPE COMPANY

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Linotype Keyboard Practice

General Information

THE COMPETENT Linotype operator, especially when employed in a book or commercial printing office, is essentially a craftsman. With the Linotype as a tool, he composes and assembles types varying as needed from four to sixty points in size and lines from four to forty-two picas in length with the proper equipment. All of the intricacies and niceties of commercial composition must be controlled by the operator's knowledge, the results of his skilful use of the machine. In addition his subconscious attention to the machine must be such that he constantly produces slugs with clean sharp-printing face and good body, properly trimmed to uniform size. Add to these responsibilities the need for speed of fingering with adroitness in handling both copy and product, and it is readily seen that the beginner is undertaking a serious task in training eyes, hands, ears, and mind.

Knowledge of Printing. The experience of years has pointed out some of the qualifications which must be possessed by the student who would become a capable Linotype operator. Foremost among these is a good working knowledge of printing including typographical layout. Familiarity with printers' customs and knowledge of type faces are essential.

The Relation of the Linotype to Printing. The Linotype is only a tool for the more rapid assembling and casting of lines of type, and, therefore, the prospective student should have a working knowledge of typographical layout before attempting to master the machine.

Educational Qualifications. Equal in importance is the matter of education. Experience shows that the equivalent of a high school education is necessary, but whatever else is possessed, a practical understanding of the language to be set is essential. The operator must understand grammatical construction, capitalization, division of words, accents, and proper punctuation in order to become a skilled workman.

General Qualifications. Third, but not the least important by any means, the student should possess a quick, keen mind, preferably coupled with an alert sense of hearing that will tell him at all times just what the machine is doing. Many operators know by the sound of the Linotype whether it is functioning properly or not. Good eyesight and good health are important.

Linotype Composition Is Based Upon the Principles of Type Arrangement. The operator's work consists chiefly in reading the copy and fingering the keyboard. To read and interpret copy requires a degree of general education and knowledge of printing which it is assumed that the student possesses, else he would not have taken up this study. If he has not had adequate instruction or experience in hand composition, it would be advisable for him to study the typical arrangement of types before proceeding with the study of the Linotype.

To Attain Speed. To all Linotype operators, especially beginners, the attainment of a high rate of speed, with accuracy, is the ultimate goal. Several steps are necessary in order to reach the highest point of efficiency in keyboard manipulation.

Familiarity with the Keyboard Is the First Essential. The fingers must be trained so that the key buttons may be touched without conscious effort on the part of the operator. A mental picture of the keyboard, which is only attained by accurate memorization, should always be before the eyes of the operator, obviating the necessity of constantly looking directly at the key buttons.

Follow the System as Outlined. Mastery of the keyboard may be attained by following faithfully the fingering system given in this book. This system provides the beginner with basic principles by which speed may be developed without excessive fatigue.

Proper Application. Besides being familiar with the layout of the keyboard, the operator, to become swift, must be able to read copy quickly and intelligently, have a good working knowledge of the functions of the machine, and possess steady nerves. An operator may be able to set a word, or two or three words, very rapidly, but unless he is able to maintain uniformity of motion, he will be excelled in a day's run by operators who apparently are not moving their fingers so rapidly.

Evenness or steadiness in operating is fundamental, if an operator desires to become rapid, and can only be attained by the student training himself to read his copy as he manipulates the key buttons, without variation of motion. A hand compositor can stop to memorize his copy, but the operator cannot do this, as it develops an irregular habit which is detrimental to efficiency.

Keyboard Manipulation. After he has reached the point of confidence in himself, the beginner should at once try to operate without looking at the keyboard. At first he will make errors and will not set as much matter. He will never become a proficient operator unless he starts correctly. If an operator persistently endeavors to assemble the lines without looking at the keyboard, in a short time he will be able to keep his eyes on his copy. Then will come steadiness in operating. Instead of setting two or three words very rapidly, then stopping to look at the copy and back to the key-

board, the operator will be working at a steady pace all the time, and at the end of the day the result will be a satisfactory output.

Character Location. The student should continue to make a careful study of his keyboard even after he has become a fairly capable operator. He should study the location of the small capitals and the points; familiarize himself with different keyboard layouts.

Speed Only One Factor. The ability to produce slugs speedily does not make a skilled operator. If, in an effort to become "swift," the beginner neglects the principles that characterize the work of a good printer, it would have been far better not to have made the attempt. No printer would send up a line improperly spaced. This admonition does not apply to a so-called "short line," but rather to a line where, for instance, the word "the" could easily be added, even though the spacebands would space out the line without it.

Errors Common to Operators. Many operators, in their desire to "hang the elevator," have acquired the bad habit of sending up the lines as soon as they think they have enough spacebands therein to space them out. The result, of course, is wide spacing, an indication of slovenly workmanship not tolerated in first-class shops. Accuracy in spelling, uniformity in capitalization, correct division of words, and punctuation, are very important adjuncts to a productive output of Linotype composition. Production in the shop is measured in terms of *corrected ems,* thus speed with errors is not speed at all. Many shops will not permit the division of words at the end of three consecutive lines, and at times the careful operator will go back three or four lines to obtain proper spacing. It is not considered good printing to begin or end three or more lines in succession with the same word. These comments are given to offset the impression that speed is the only qualification necessary to make the competent machine operator. Accuracy and good spacing must be the primary considerations.

Speed of the Fingers—Note the Instructions. Do not try to move the fingers faster than they can touch the right key buttons. To do so will cause confusion and a loss of time. When starting on a "take," go slowly; note any instructions about setting, then start, maintaining an even, steady motion.

Another very important factor in operating, which the beginner should observe, is to resume operating as soon as the assembling elevator returns to normal position. He should not watch the line while it is being carried into the first elevator by the line delivery.

All Students Do Not Become "Swifts." All beginners will not eventually become "swifts," but with the requisite typographical knowledge the majority can become competent operators. The man who can be relied upon to do his work properly is much more valuable than the nimble-fingered workman who cannot be depended upon in work in which accuracy is the basic consideration.

Cleanliness of the machine, care of the matrices and spacebands, and the proper attention to the plunger and metal pot contribute materially to operating efficiency.

Speed Comes by Irregular Stages. After the student has been working on the machine about four or five weeks, and has attained perhaps the speed of about 1,500 or 2,000 ems per hour, he will find that it will be difficult for him to increase his speed. This is the turning point in the beginner's upward climb. Continued practice and patient effort will be needed to attain higher speed. Accuracy must not suffer while the fingers become more nimble. *Speed does not come to the beginner. He must go after it and get it.*

Keeping Time on Composition. A very good method for the student to follow at this point is to time himself by keeping a chart of the ems of composition and time required to set them. This method, frequently repeated, will help to give a substantial increase in speed. The careful operator examines a slug now and then, and notes its face and bottom, to see that the lines are coming out satisfactorily. In this way he will relieve himself of the necessity of resetting slugs which will not print properly.

Positive Fingering System Provided. It will be realized that Linotype operating can be acquired only by patient, careful, energetic, and untiring practice. This is the factor that has produced all of the great speed records. This book provides a positive fingering system, gives the student one thing at a time, and furnishes sufficient intensive practice to enable the beginner to master the method thoroughly and correctly.

The Linotype Keyboard

THE LINOTYPE machine is a tool for doing more rapidly much of the work formerly done by the hand compositor. The operator must produce his composition correctly—that is, spell out the words, put in the punctuation marks, etc.—by touching the keys of the required characters on the keyboard of the machine. When a key is pressed, it causes the release of a corresponding matrix, which automatically drops into its proper place in the assembling elevator, the matrices and the spacebands making up the line.

How the Linotype Functions. When the line has been assembled, the operator raises the assembling elevator by moving the hand lever; the line delivery is released by the tripping of the latch, and the starting spring carries the line of matrices to the first elevator. The line remains in the first elevator during the operations of justification, alignment, and casting, after which it is conveyed to the transfer position and transferred to the second elevator. The slug, which received its face, or printing surface, from the matrix line, is trimmed to height and thickness by the back and side knives and delivered onto the machine galley. The matrices are carried to the distributor and returned to their proper channels in the magazine and the

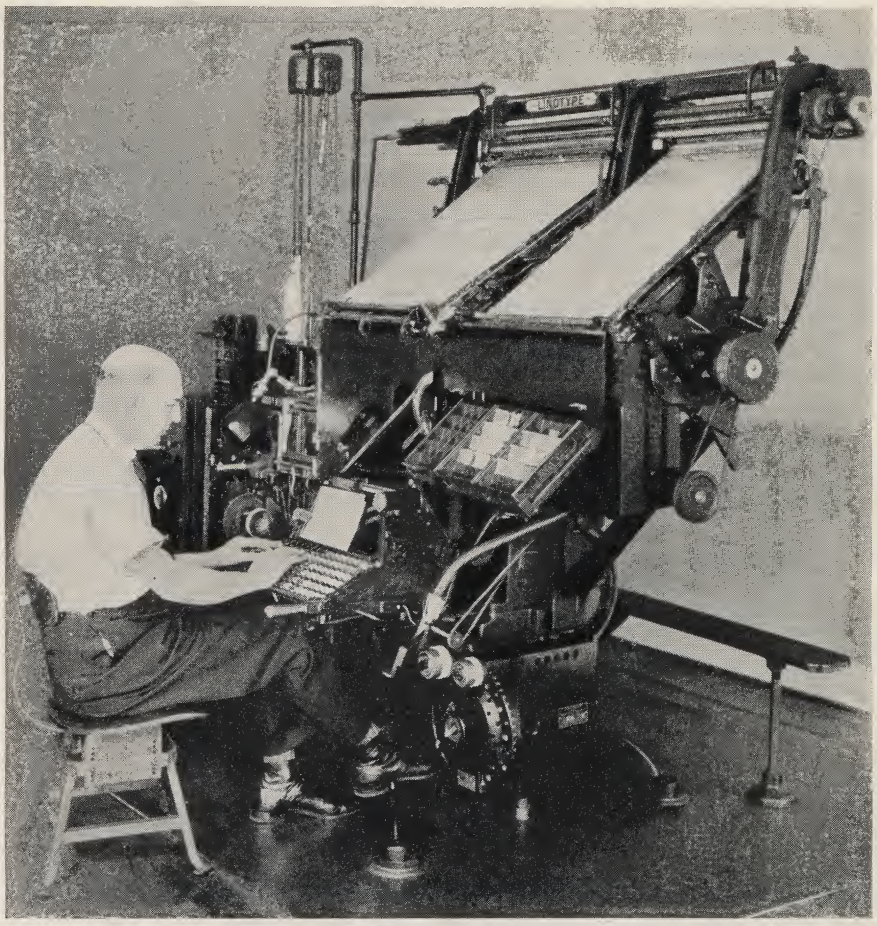


FIGURE 1
Showing the Proper Position of the Operator at the Keyboard

spacebands are returned to their box during these operations. All of these actions are entirely automatic except the assembling of the line by the operator and the raising of the assembling elevator.

Memorize the Keyboard. The first task of the beginner must be to memorize the keyboard so that it can be operated without looking directly at the fingers or keys, thus leaving the eyes free to read the copy and watch the assembling of the line.

Standard Keyboard Arrangement. The standard keyboard consists of ninety keys, arranged in six horizontal rows of fifteen keys each *(page 9)*.

In addition to the keys, the spaceband key is located at the left of the keyboard. Three sections will be noticed on the keyboard, each of which is

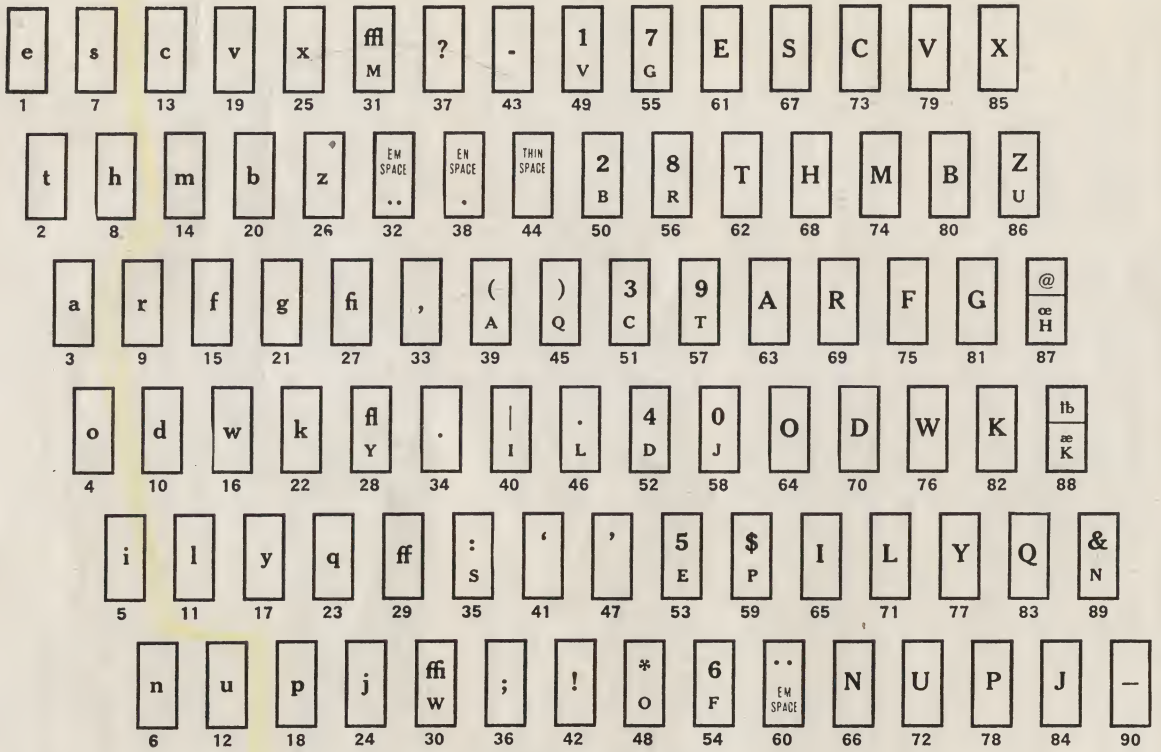


DIAGRAM NO. 12

FIGURE 2—Standard Layout for Use of Two-letter Matrices. Numbers Show Corresponding Channels

characterized by distinct colored buttons. The black buttons are the lower case; white buttons are the capitals; blue buttons are the figures, marks of punctuation, and other miscellaneous characters. On most of the blue buttons and a few of the others it will be noticed that there are two characters, the lower letter in some cases being a small capital. Characters not shown on the keyboard run down the pi channel, to the right, into the pi stacker.

There is an extra channel in all magazines, with the exception of the Model 9, to accommodate extra lower-case e matrices. By the use of a special attachment, this channel of matrices may be used alternately with the regular channel. This is especially desirable on wide-measure machines and in split magazines.

Display Keyboard. On combination text and display machines such as the Two-in-One Model 32, eighteen of the ninety keyboard keys automatically become inoperative as the Blue Streak Shift is operated to change from a ninety to a seventy-two channel display magazine. The same arrangement is used on the Two-in-One Model 33 (super display and text machine) which carries magazines some thirty-five per cent wider than ordinary Linotype magazines.

Study of the Keyboard. Study the buttons vertically, then horizontally, taking one section at a time to determine the general division of the keyboard and gain a mental picture of the arrangement. It will be observed that the capital layout (in white) is identical with the lower-case (in black) as far down as the letter z. The small capitals require a great deal more study than the other letters. Use the chart (Figure 2) and study it carefully. All letters and characters not found on the keyboard will be found on the sort tray.

Position of the Operator at the Keyboard. (Figure 1.) The position of the operator at the keyboard is a vital factor in obtaining maximum production without excessive fatigue. To get the best results with a minimum of effort, the operator should place himself to the best advantage in a comfortable chair and position. The body must be in such a posture that fatigue is reduced to a minimum. Avoid sloping shoulders and contracted chest. Throw out the chest and maintain natural breathing. Sit erect at a proper distance from the keyboard. This distance should be gauged by placing the thumbs over the lower rows of keys and sitting close enough so that the arms, down to the elbows, are parallel with the body. The arms should not be held away from the body, but should be relaxed and hang naturally by the sides. The palm of each hand should be close to the keyboard, with the right wrist near the assembling elevator shaft but not resting upon it nor on the frame of the keyboard. Sit in a position in front of the keyboard so that the first two rows of lower case (e, t, a, o, i, n, and s, h, r, d, l, u) come opposite the center of body.

Use the Proper Chair. Each office should provide the operator with a

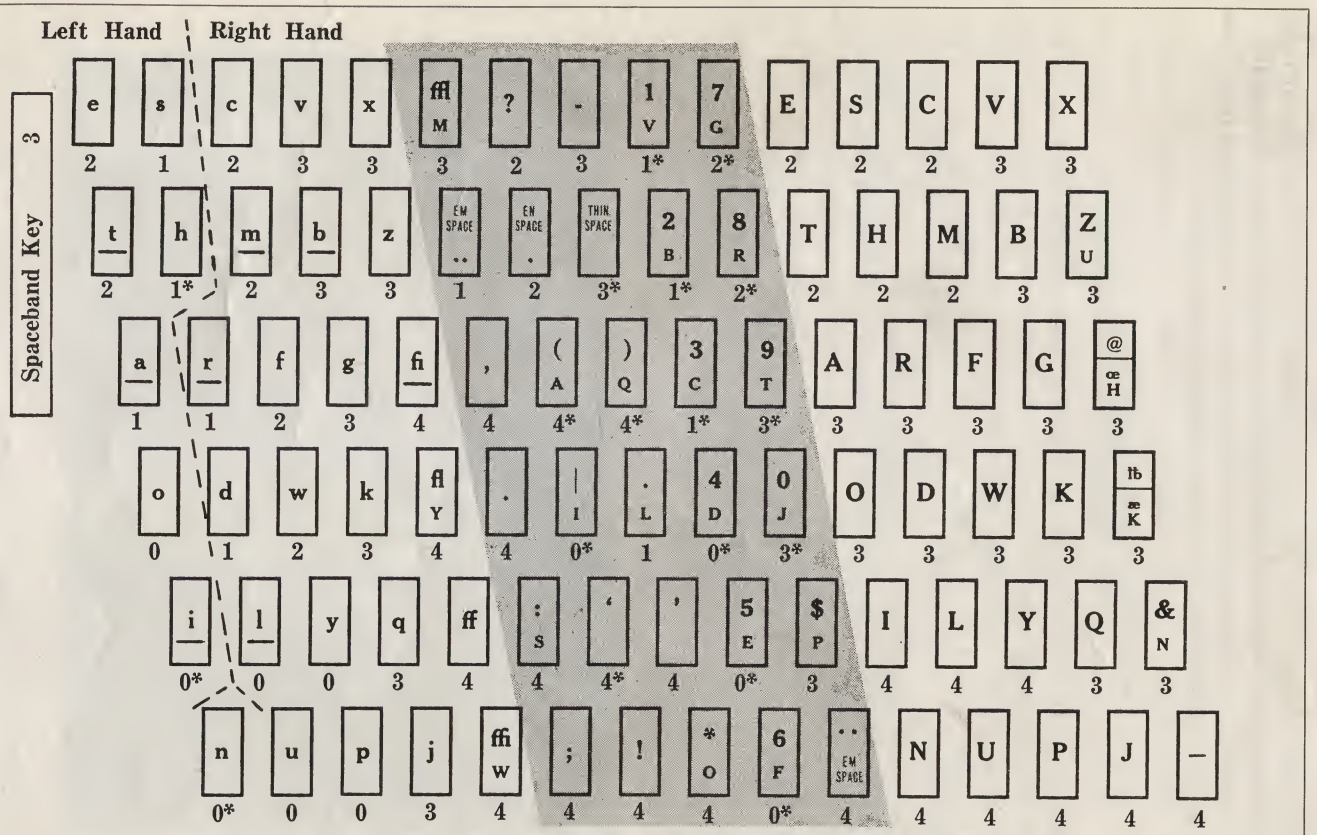


FIGURE 3—Linotype Keyboard Fingering Chart (*See pages* 12, 13 *and* 14)

proper chair. The health of the employee is an important factor in any business. There are many comfortable operating chairs on the market and there is no excuse for not having one for the operator. The sluggish workman accomplishes but little, so do not slump down in the chair.

The Fingering System

SINCE it is essential that the key buttons be operated without looking at the keyboard, the hands must assume a fixed relation to the keys in order that the fingers may unhesitatingly and unerringly touch the key buttons without the guidance of the eyes. The vision must travel from the copy to the assembler slide and to the assembling matrices in the assembling elevator.

Place the left hand over the keyboard so that the second finger rests over the t button and the thumb over the i button. This will bring the first finger over the a. Place the right hand so that the thumb comes over the l and the first finger over the r. This is the basic position for these two hands. The left hand will not have to move more than a few inches from this position for operating the key buttons. The e is struck by the second finger and the s by the first finger of the left hand. The letter a may be considered common

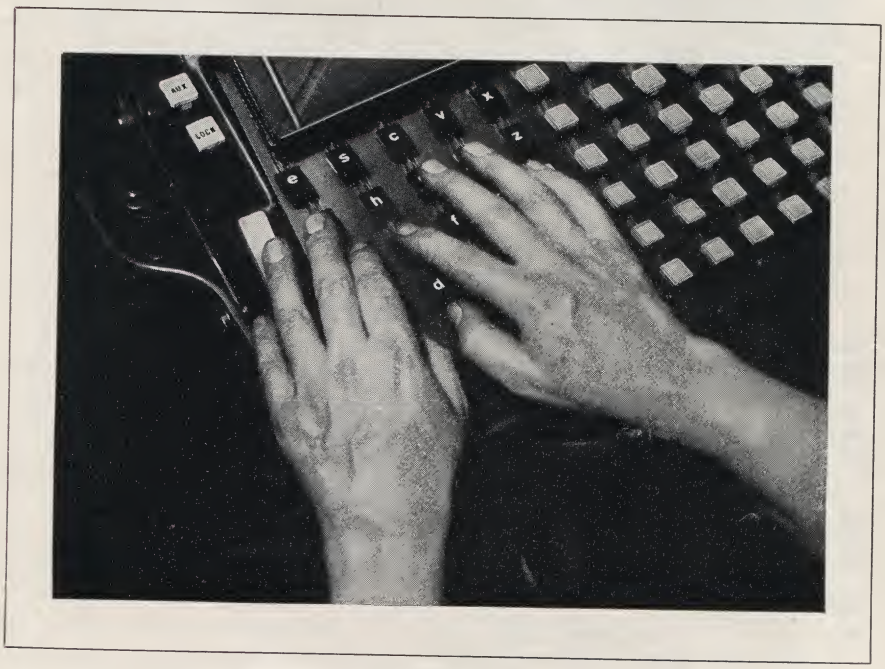


FIGURE 4

The Above Illustration Shows the Hands over the Keyboard in Basic Position

ground for the second and first fingers. The right hand moves around to reach other characters, but it can always be rapidly brought back for continued work with the lower case. Figure 4 shows the basic position of the hands, which is indicated also by the underscored characters of Figure 3. An asterisk below a character means that character may be struck, sometimes, by other than the designated finger—as explained later.

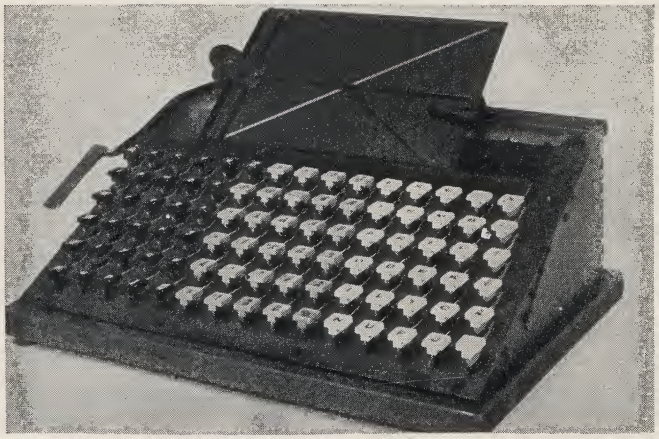


FIGURE 5
Practice Keyboard

The Work of the Fingers. Efficient operating requires that each finger be trained to do its specific work. In designating this work in these lessons the fingers are indicated as follows:

0—Thumb
1—Index finger
2—Second finger
3—Third finger
4—Fourth finger

The fingering system used in these lessons requires, with a few exceptions, that each lower case keyboard character or key shall always be struck by a certain designated finger. These characters are operated by the left hand:

s, (h), and a—first finger
e and t—second finger
o, (i), and (n)—thumb
Spaceband key—third finger

Train the left hand to strike above characters with the proper finger as shown in Figure 3. The characters above which are enclosed in parentheses

may be struck with fingers as marked of either the left or the right hand. Which hand is used depends on the syllable arrangement of the word being set and the hand structure of the operator.

The following lower case characters are struck by the right hand, using the fingers as indicated in Figure 3:

r, d, and (h)—first finger
c, m, f, and w—second finger
v, b, g, k, q, j, x, and ffl—third finger
l, y, u, p, and (n)—thumb

The ligatures fi, fl, ff, ffi and the comma, period, colon, semi-colon and exclamation point are struck with the fourth finger. Always use ligatures when observed in the copy. Practice the alphabet until you can set it evenly and smoothly without any pause in the rhythm of your finger movement. Train the fingers to operate the keys as assigned in Figure 3. In this way the work of each finger is definite and is accomplished with ease, speed and precision. In Exercise 8 under "Word Practice" are some syllables and words in which variable fingering may be used.

Operating with Least Effort. The distribution of labor gives to the left hand a small number of keys, but these are most frequently used and comprise fully half of all the strokes in ordinary straight composition. Moreover, they are all in a small area and this hand does not have to travel. The right hand, which is naturally more versatile, travels around the board to set punctuations, figures, capitals and small capitals, etc. The fingering for the right hand as shown in Figure 3 is that suggested for the operator with an average type of hand.

Finger Practice. Assume the proper position and begin practice of the exercises. The fingers of the hand should not be widely stretched apart nor rigid. They should be slightly curved. The striking motion should be from the knuckle and not from the wrist. In other words the depressing of the key lever should be a finger and not a hand motion. The Linotype keys have a hair-trigger touch and the slightest movement of the button will cause the release of a matrix. The finger must be removed as quickly as possible, since continued holding down of a button causes the matrices to drop until the supply in the channel is exhausted.

Word Practice

It is imperative that the student should learn to operate without looking at the keyboard. The keyboard chart showing finger assignment may be placed at the right of the copyholder as an aid in the earlier exercises. Determine from the chart, in practicing the following words, which fingers are required, then practice the word two or three times, looking at the key-

board if necessary. Practice the word at least five minutes without looking at either keyboard or chart.

Word practice should be on a detached, or practice keyboard (Figure 5), or on a running machine with the matrices locked in the magazine.

EXERCISE 1—*Use of First and Second Fingers.* The following words, or group of words, where they occur in the same line, should each be practiced for five minutes or until fingering has been memorized. Follow exactly the fingering given in Figure 3. Always strike the spaceband key after each word, using the third finger of the left hand.

test	tease	heart	haste
her	harmed	master	reader
she	these	smarter	father
far	warmer	cream	washer
was	scarf	frame	feasted
set	craft	shame	rehash
hard	reward	massacre	teamster

EXERCISE 2—*Use of Thumbs.* Do not worry in the beginning about speed; that will come later after you have had sufficient practice and experience. Strive to develop uniform and regular movements of your thumbs and fingers in striking the keys. Do not watch the hands or keys while you are practicing. Keep eyes on the copy.

aisle	clientele	heliotrope	uranium
alias	colonel	humorous	mysterious
your	dictaphone	youthful	spheroid
world	iridescent	dyspepsia	ointment
yellow	emolument	tournament	monsieur
mutual	lieutenant	facetious	unionist
personal	fecundity	running	romanticism

EXERCISE 3—*Use of Third Fingers.* Practice the following words using the proper finger on each key. Avoid the use of jerky movements and maintain a slow, even, rhythmical operating speed. Erratic fingering is a strain on the nerves.

rage	grave	parquet	affluent
dark	delve	background	javelin
wake	bivalve	objective	neutralize
back	galvanize	wedged	lighter
graft	ruffled	knapsack	jockey
extra	oxygen	language	subjacent
track	quartz	auxiliary	harlequin

EXERCISE 4—*Use of Fourth Finger.* It will require effort and diligent practice to train the third and fourth fingers to work, but when they are properly trained, operating will be easy and rapid. Timing is especially important in setting words with ligatures and double letters.

fine	flyer	affiliate	flourish
fling	figure	giraffe	fifteen
offer	deflate	flippant	chauffeur
reflex	affront	diffuse	efficacious
affinity	edifice	official	fitted
profile	efficient	munificent	circumflex
buffed	offence	fixture	suffice

EXERCISE 5—*Double Letters.* Do not hold the key down for double letters; and further, do not slur your fingers across the key buttons. Either of these actions will disturb the smoothness of muscular motion and decrease your speed. Strike each letter separately in the following words:

been	dimmer	raccoon	football
good	opposes	doggerel	meerschaum
occur	battle	crippled	immune
arrest	meddle	embarrass	dazzle
lesson	drugged	fibbed	colonnade
pulley	lorgnette	vacuum	bullion
cannon	mezzanine	squabble	dilettante

EXERCISE 6—*Jumping of Fingers.* Cases will be found where it is necessary for a finger to successively jump from one key to another, as in the words in this exercise. Train the fingers to make these jumps smoothly and evenly. In this and previous exercises follow fingering as designated in Figure 3.

lubricate	sheet	ashes	shoot
nuptial	pleasure	save	luring
purpose	teeth	seethe	should
quintette	pump	join	accommodate
shave	intercede	puzzle	sash

EXERCISE 7—*Widely Separated Letters.* You may have noted that some of the words from previous exercises required a jumping around of the fingers of the right hand, because of the wide separation of their letters. Train this hand to move the fingers around the keyboard confidently, easily and

smoothly. Avoid spasmodic bursts of speed by the use of proper timing in striking the keys. Following are some selected words of widely separated letters:

extravagance	subjective	iconoclast	hieroglyphics
oxygen	unravel	encyclopedia	microscope
rhythmical	gravel	pneumatic	subject
reckon	quince	acknowledge	glycerin
nullificationist	justice	xylophone	zealously
envious	exposure	bezique	octagonal
objective	circumflex	banquet	loquacious

EXERCISE 8—*Optional or Variable Fingering.* It must be understood that variable fingering of the following words is optional with the operator and will show results in a smoother and faster fingering method only after the operator is able to set 4,000 or more ems per hour. As the operator gains speed he discovers that when he reaches a certain point in his progress he has to vary the fingering of certain syllables in order to maintain his rhythm and smoothness of operating. How he varies his fingering depends on the letter arrangement of the word and the operator's own particular type of hand. The most frequent variables are ing, tion, is, and ch. Practice the following words containing variables and notice how the letters i, n, and h may be struck to advantage by using either the left or the right hand:

running	moving	passing	nibbling
turning	razzing	shoeing	backing
meddling	raging	tossing	drawing
leaning	rooming	seeing	pushing
snowing	snubbing	petting	meaning
wooing	racing	teeing	laughing
reaction	passion	grain	conviction
mentioned	delusion	painful	adhesion
duration	conversion	against	mountain
sensation	session	vainly	depletion
confectioner	complexion	abstain	admission
dictionary	accession	detrained	maintain
biscuit	thistle	cistern	disk
display	bristle	kissing	discreet
visionary	whistle	bisect	rising
gist	island	visor	disillusion
jurisdiction	listing	bishop	histrionic
issue	historic	inquisition	wrist

ratchet	churn	technicality	chuckle
catechism	chukker	bronchitis	chump
clutch	ketchup	orchestra	church
lunch	chunk	handkerchief	chipped
thatch	chute	chorine	churl
machination	chubby	chorus	chopper

Sentence Practice

FROM THE PRACTICE in the preceding lessons the location of all the characters on the keyboard should be memorized so that the fingers will readily touch any desired key without being directed by the eyes.

Interpreting Copy. The Linotype operator must read and comprehend copy much faster than the hand compositor whose hand motions in typesetting impose a leisurely pace for his mental activity. The high-pressure character of the operator's work requires concentration of attention on his copy in order to grasp its meaning accurately and rapidly. With the keyboard properly memorized, the fingers strike the character as directed by the brain, but if the brain does not correctly interpret the copy, the error in composition may be even more serious than striking an occasional wrong key. Correct comprehension of copy requires keen eyes, deep concentration, knowledge of the rules of grammar, spelling, punctuation, and language composition, and the general intelligence and knowledge that come from a wide range of reading and study. The operator must be alert and on constant lookout for any marks of instruction which may have been placed on the copy. In setting sentences the flow of thought helps to interpret copy or detect errors in the composition, but when setting proper names, numbers with figures, or involved punctuation, the power of memory must often work abstractly without the aid of reason or associated thought.

Memory Training. The powers of mental concentration and memory may be improved by more care and attention in the daily reading for pleasure. The cursory reading of newspapers, or the habit of skipping in other reading, will militate against mental efficiency. Learn the correct spelling of the names of prominent persons. Practice in repeating sentences after reading them, spelling unusual proper names, or repeating long numbers, and series of numbers, after passing them in reading, will be excellent mental training and prove greatly to the advantage of an operator. Crossword puzzles provide a wide vocabulary.

Steadiness of Motion. In the preceding lessons the operator has been urged to go slowly and be deliberate in order to acquire a smooth, easy motion and to develop such control that the mind, the eyes, and the fingers work in perfect harmony, each performing accurately its own separate and

distinct part. This smooth, easy motion acquired by using all the fingers soon becomes to the operator an unconscious habit—the reading of copy, fingering the keyboard, and dropping of the matrices working in unison and with such perfect harmony that a break in the uniformity of this action is instantly detected. To maintain a steadiness of motion the operator must strike each key distinctly for each letter of the copy. The student operator soon becomes accustomed to the sound of the dropping of matrices in the assembling elevator.

Harmonious Action Essential. Constant, uniform, harmonious action in fingering the keyboard makes for greater efficiency than frantic efforts at speed without a foundation for correct habits.

Assemblage Knowledge—Important. The operator should be particularly careful always to use the proper amount of matrices and spacebands in each line which he sets. Lines which are too tight to fit easily between the vise jaws do damage in a great many ways. They usually cause the matrices to be smashed, often damage the first elevator jaws and occasionally smash the first elevator duplex rails. However, the trouble and expense do not end there. The damaged matrices cause distributor and escapement troubles, with a great loss of production. Lines which are too loose do damage in two very definite ways: first, if the line is just barely tight enough to cast, the spacing is unsightly; and, second, the constant sending in of loose lines will soon ruin the matrices by damaging their side walls.

Sentence Ending. Between sentences in this book a spaceband was used. Styles of such spacing vary in different composing rooms—some may use a greater space between sentences.

Sentence Practice. Practice each of the following sentences at least five minutes. Set each sentence continuously. During this exercise the matrices and spacebands should be used. Remove the plunger pin so slugs will not cast. Learning one thing at a time is conducive to speed and accuracy.

EXERCISE 9—*Alphabetic Sentences.*

He that hath a trade hath an estate.
Diligence is the mother of good luck.
The tortoise was the first efficiency expert.
Concentration is the first condition of success.
The quick brown fox jumps over the lazy dog.
A good worker is worth more than a poor manager.
If you want a thing to succeed, get behind it and push.
Raise your own seed corn and be sure of a crop that is worth tilling.
Sloth makes all things difficult, but industry all easy.
If the text and the initial are in one color, should they harmonize?
The jazz band included a saxophone and a xylophone among the instruments of their queer outfit.

Dexterity in the vocation of typesetting may be acquired by work.

The man at the top is the one who has been in the habit of going to the bottom of things.

The average layman has but little idea of the immensity of the field of printing and its importance to modern civilization.

EXERCISE 10—*Punctuation Marks*

Look, my lord! It comes!

Ha, ha, ha! That's a good joke.

St. Paul said, "Bear ye one another's burdens."

Read the following: "Matt. i: 5, 7, 9; v: 1-10; xiv: 3, 8, 27."

The flag has three colors: red, white, and blue.

He said: "I heard him say, 'Put down the gun,' and then I heard a shot."

Write a short essay on the following topic: "What is wrong with our industrial system?"

Farm for sale, rent, or exchange; 400 acres, improved. 24 West Michigan Street, Circle 5930.

Dost thou love life? Then do not squander time for that is the stuff life is made of!—Franklin.

Franklin, like many others, was a printer; but unlike the others, he was a student, statesman, and publicist as well.

"Breathes there a man with soul so dead,
Who never to himself hath said:
'This is my own, my native land'?"

If we can reduce the labor turnover from 50 per cent to 25 per cent (an accomplishment quite possible by means of group insurance) we shall have a consequent reduction of overhead from $25 to $12.50 per capita.

Sit thou patient looker-on;
Judge not the play before the play be done;
Her plot has many changes; every day
Speaks a new scene. The last act crowns the play.

Capital-Letter Practice

THE ARRANGEMENT of letters in the capital-letter section on the white buttons at the right side of the keyboard is the same as that in the small-letter section, as far down as the Z. The capital-letter section should be operated with the right hand. In setting ALL CAPITALS, right hand is placed over capital keys in similar position to that of basic position, i.e., thumb over L—first finger, R—second, M—third, B. Desired characters are struck with nearest finger.

A few words are given in Exercise 11 for the purpose of practicing, but the beginner should set a whole article in capital letters in order to familiarize himself with this work.

EXERCISE 11—Set each of the following words in capitals. Do not watch the fingers or the keys. Use a smooth, regular motion. Practice each word at least five minutes.

HAZY	TARGET	SPASMODIC
JUMP	WROUGHT	EXCELLENT
BACK	HOWEVER	KNOWLEDGE
KNOW	PECULIAR	PSYCHOLOGY
LARGE	QUESTION	THEORETICAL
SHOULD	CHARMING	GOVERNMENT

When only one capital is wanted, as in setting the first letter of a sentence or a proper name, the fingering suggested in Figure 3 is that recommended for the average type of hand.

EXERCISE 12—Practice each of the following lines at least five minutes:

New York City.	Montreal, Que., Canada.
Chicago, Illinois.	Hudson River Day Line.
Washington, D. C.	Ontario Arts Association.
Kalamazoo, Michigan.	San Francisco, California.
Dayton, Ohio, U. S. A.	President John Brown.
Thursday, January first.	Radio Corporation of America.
Buenos Aires, Argentina.	Mergenthaler Linotype Company.

Figure Practice

FIGURE WORK, or tabular composition, requires more concentration than straight matter setting, but there are a great many operators who prefer this work. Extensive practice is required to become proficient. The right hand is used for the figures, dollar sign, em and en leaders, points, em and en spaces, and thin space.

EXERCISE 14—Practice each of the following lines five times, touching the space key with the third finger of the left hand at the end of each group of figures or characters corresponding to a word. Remember that accuracy is more important than speed.

23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23
138 138 138 138 138 138 138 138 138 138 138 138 138 138 138
156 156 156 156 156 156 156 156 156 156 156 156 156 156 156
1,340 1,340 1,340 1,340 1,340 1,340 1,340 1,340 1,340 1,340 1,340

(6,289) (6,289) (6,289) (6,289) (6,289) (6,289) (6,289) (6,289)
$82.50 $82.50 $82.50 $82.50 $82.50 $82.50 $82.50 $82.50 $82.50
7,239 7,239 7,239 7,239 7,239 7,239 7,239 7,239 7,239 7,239 7,239
91-72 91-72 91-72 91-72 91-72 91-72 91-72 91-72 91-72 91-72 91-72
(?) $9.45 (?) $9.45 (?) $9.45 (?) $9.45 (?) $9.45 (?) $9.45 (?)
378,992 378,992 378,992 378,992 378,992 378,992 378,992 378,992
1,189,286 1,189,286 1,189,286 1,189,286 1,189,286 1,189,286
1,987,684,322 1,987,684,322 1,987,684,322 1,987,684,322 1,987,684

Casting Slugs

HAVING DILIGENTLY practiced all of the preceding exercises, you should now have attained proper posture at the keyboard and a knowledge of the correct manner and method in which the various characters on the keyboard should be fingered. You are now ready to cast slugs. Check your mold, ejector blade, vise jaw and assembling parts to see that they are set correctly. Connect pot plunger by inserting pin in plunger rod. Then practice setting straight composition from reprint, typewritten or manuscript copy. Do not cast lines that are so tight they stop the assembler star. Do not cast loose lines in which you estimate the spacebands will rise up more than three-quarters of their length when justification takes place. These latter lines should be hand-spaced. After you receive sufficient practice on straight composition to give you confidence, then continue with the next lesson.

Marks on the Copy

AN ILLUSTRATION containing proofreader's marks is shown in Figure 7. Proofreader's marks and the marks on the copy when it is sent to the machine should be identical. A single waved line under a word or group of words indicates that they are to be set in bold face; a single straight line means that they are to be set in italic. Small capitals are designated by two straight lines under the words, and three straight lines indicate that capitals are required.

Manuscript as Marked by the Author or Copy Reader. Figure 7a illustrates typewritten manuscript, containing marks for style. Copy is marked by the layout man, foreman, or copy cutter in this manner and sent to the operator. When in doubt in regard to any mark on the copy or wording, don't be afraid to ask about it. Figure 7b shows the resulting composition.

Proofreader's Marks

⁄	He made his mark	*take out*
⁀	He ma de his mark	*close up*
⎣	He made his mark	*bring to mark*
tr	He his made mark	*transpose*
stet	He made his mark	*let stand*
(t?)	He made his mark	*query to author*
¶	Therefore, be it Resolved	*make paragraph*
□	He made his mark	*indent em-quad*
wf	He made his mark	*wrong font letter*
l.c.	He made his Mark	*lower case letter*
sm.c.	He made his mark	*small capital*
caps	He made his mark	*capitals*
ital.	He made his mark	*put in italic*
rom.	He made *his* mark	*put in roman*
b.f.	He made his mark	*put in bold face*
⊙	He made his mark	*period*
’	He made Johns mark	*apostrophe*
“ ”	He made his mark	*quotation marks*
=/	This is a trademark	*hyphen*
#	He made hismark	*space*
⁀	He made his mark	*even spacing*
×	He made his mark	*broken letter*
‖	He made his mark	*align*
*	He made his mark	*insert reference mark*

FIGURE 7

A Chart of the Proofreader's Marks

Set this job in 10½ pt. O.S. #7, on 12 pt. slug, 27 picas meas. Heads in 10 pt. Caslon #3 as marked. Watch indentions.

COMPOSING-ROOM EFFICIENCY Cas. #3 caps

Cas. #3, w+l.c. Conveniences for planning type composition for economical production.

c+sm.c. flush I. THE LAYOUT

Absolutely essential to a working understanding of the job to be set, the layout may be a carefully drawn diagram or a simply sketched plan. Although type sizes, indentions, and spacing can be marked on copy like this sheet, the operator cannot fully visualize the desired result with a plan.

ital/ a. Layout Materials

For quick, convenient layout work the following items are needed:

1. Proof sheets of each type face in the plant. These should include sizable blocks of matter, with separate lines of caps, of small caps, and of figures and special characters.

2. Proof sheets of initial letters. Where initials form part of a standard style they should be charted for indention and alignment.

3. Proof sheets of all borders and ornaments.

ital/ b. A Copy-Fitting System

The Linotype Copy-Fitting tables, supplied with type specimen folders on request, are based on the mathematical relationship between typewritten manuscript and the various type faces and sizes. They are easy to use and accurate.

FIGURE 7a

Shows Marks on the Copy When Sent to the Machine

COMPOSING-ROOM EFFICIENCY

Conveniences for planning type composition for economical production.

I. The Layout

Absolutely essential to a working understanding of the job to be set, the layout may be a carefully drawn diagram or a simply sketched plan. Although type sizes, indentions, and spacing can be marked on copy like this sheet, the operator cannot fully visualize the desired result without a plan.

a. Layout Materials

For quick, convenient layout work the following items are needed:

1. Proof sheets of each type face in the plant. These should include sizable blocks of matter, with separate lines of caps, of small caps, and of figures and special characters.
2. Proof sheets of initial letters. Where initials form part of a standard style they should be charted for indention and alignment.
3. Proof sheets of all borders and ornaments.

b. A Copy-Fitting System

The Linotype Copy-Fitting tables, supplied with type specimen folders on request, are based on the mathematical relationship between typewritten manuscripts and the various type faces and sizes. They are easy to use and accurate.

FIGURE 7b

Shows the Resulting Composition

Division of Words

There has always been a wide diversity of opinion among authors and proofreaders regarding the division of words. A great many follow the American plan of dividing according to pronunciation, while others prefer the English plan of dividing according to derivation. *Funk & Wagnalls Standard Dictionary* is widely used as a standard authority on division of words, and there are others which may be used with confidence by the Linotype operator. Shop style should determine which is to be the authority.

The following rules are offered to the operator as general guide to enable

him to make proper divisions. A good dictionary should be kept for consultation when in doubt.

1. Words should be divided according to syllables; a syllable being a group of letters to represent one sound.

con-ster-na-tion syl-lab-i-ca-tion

2. If a word is one containing a single vowel syllable, preceding the last syllable, divide the word preferably on the vowel, carrying over the last syllable. If it has two vowels retain both.

mechani-cal, *not* mechan-ical; approxi-mate, *not* approx-imate

3. If the last syllable of a word contains but two letters, do not carry it to the next line. If there is room for the hyphen there is usually room for the last two letters.

vocifer-ously, *not* vociferous-ly

4. In dividing present participles the *ing* should be carried over: smoking, din-ing, driv-ing, hav-ing, etc.

If the consonant is doubled on adding the *suffix,* carry over the second consonant: drum-ming, stir-ring, can-ning, etc.

Certain instances may be cited, however, where the consonant has not been doubled; it is part of the original word: express-ing, pass-ing, etc.

5. Divide a compound word into its elemental words rather than on syllables, unless spacing would be sacrificed to accomplish it:

composing-room, *not* compos-ing-room

6. Words which have been compounded of two words and which, from usage, have coalesced into one, should preferably be divided into their original elements.

school-master *is better than* schoolmas-ter

7. *Able* and *ible* are always to be considered as the final syllable, and carried over.

consider-able indestruct-ible

8. Words of one syllable cannot be divided, nor can the plurals of singular nouns, even though pronounced as if they were words of two syllables.

horse, horses; inch, inches; fox, foxes

9. The addition of the past tense of verbs of one syllable does not add a syllable. Such words cannot be divided.

drown, drowned; slap, slapped; push, pushed

10. Few English words begin with an x or end with a j, therefore, in dividing words containing these letters always keep the x on the upper line and the j on the lower line.

parox-ysm pro-jection

The word *prejudice* is an exception to the foregoing rule of dividing words on a j. The accent is on the *prej*. Words such as project must be divided according to the sense to be conveyed, i.e., pro-ject—proj-ect.

11. If the first syllable in a word contains but one letter, do not divide it on the first syllable; carry over the letter.

E-gypt a-mong a-float a-shore a-gain

12. When a distinction is made in the pronunciation of a word to denote its part of speech, the word should be divided according to pronunciation.

13. Never have more than two divisions of words at the ends of successive lines.

The proper division of words is a subject that requires much study. A few rules are given here which will prove helpful:

Always divide according to pronunciation (knowl-edge).

Divide according to etymology when compatible with pronunciation (dis-pleasure).

Divide after vowels when possible (sepa-rate); (read-able).

Divide between two consonants when they come between vowels (advan-tage) (impor-tant).

Do not divide monosyllables.

Comparative Sizes of Various Characters Used in Tabular Composition

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	[	]	(	)	4/5	1/6	5/6	..
Quotation	–	.	?	1	+	—	×	=
Thin space	2	3	4	5	%	@		
	6	7	8	9				
	0	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

Sizes of Linotype Faces

In referring to the sizes of faces it is preferable to employ the term "point," such as 6 point, or 7 point, etc., instead of the obsolete terms "nonpareil," "minion," etc. Every matrix is distinctly marked on the side with the point size of the face and the triangle number, as a means of identifying point size and style of face.

Decimal Measurement of Bodies. The table below (Figure 105) gives the decimal measurement of bodies from 1 to 72 points:

1	.01383	8.....	.1107	18.....	.249	36.....	.498
2	.0277	9.....	.1245	20.....	.2766	40.....	.5532
3	.0415	10.....	.1383	22.....	.3044	42.....	.581
4	.0553	11.....	.1522	24.....	.332	48.....	.664
4½.....	.0622	12.....	.166	26.....	.3596	54.....	.747
5	.0692	13.....	.1798	28.....	.3874	60.....	.830
5½.....	.0761	14.....	.1937	30.....	.415	66.....	.913
6	.083	15.....	.2075	32.....	.4428	72.....	.996
7	.0968	16.....	.2214	34.....	.4703		

FIGURE 105

Thickness of Leads and Slugs. Of importance also, is a familiarity with the thickness of leads and slugs, expressed decimally in Figure 106.

12 to Pica.....	.01383″	6 to Pica.....	.0277″
10 to Pica.....	.0166″	4 to Pica.....	.0415″
8 to Pica.....	.0207″	2 to Pica.....	.083″

FIGURE 106

Systems of Measurement

Point System. Until the latter part of the nineteenth century each type founder was a law unto himself in the matter of type standards. Brevier, for example, made by one foundry would not justify with brevier from another foundry. The pica "em" in use up to that time had been obtained by dividing an inch into six parts, equalling, decimally, .166⅔″. When the present point system of the American Type Founders Association was decided upon in 1886, the fraction was eliminated and a standard "pica" em adopted, measuring .166″. This standard of matrix measurement is used by the Mergenthaler Linotype Company, and one-twelfth of the pica, .166″, equals one point, .01383″.

Commercial Composition—Book Work

THE STATEMENT was made in the earlier part of this booklet 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 the preceding 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 the following pages 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, but in an italic font it becomes a small capital L when on the upper rail.

Indention of Paragraphs. The amount of indention 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 indention 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 indention. 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 Makeup* deals with this subject at length.

In many instances in book or commercial work, it is desirable to vary from the regular indention, 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 indention of the principal face used in the job should govern the indention 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 of a font (em spaces, en spaces, or figure spaces, and the thin spaces) five thicknesses of spacebands are available for use on the Linotype. And in addition to this, thinner space matrices are to be had in the form of hair spaces, .0035″ to .022″ thick. Consequently the operator has at his command a variety of spacing material for any line of matter in any kind of Linotype composition.

Sizes of Spacebands. The five thicknesses of spacebands are known as extra thin, thick, extra thick, wide range, and special taper. Extra thin bands are for close spacing, and are recommended for offices doing good book and job work and for those using small faces; thick, for normal spacing of medium faces; extra thick, for large faces where wide spacing is required. The wide range band is thin enough at its minimum for close spacing, with ample range of expansion for wide spacing. The special taper band is similar to the wide range, but slightly thicker at both minimum and maximum points than the wide range band.

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.

Modern man cannot be served by a tool that is just good enough for his purpose or even a little better than pret

Modern man cannot be served by a tool that is just good enoug

Modern man cannot be served by a tool that i

Modern man cannot be s

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 comple

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.

Italic and Bold-Face Practice

EXERCISE 13—Composition involving the use of the duplex rail, for italic or bold-face words, requires practice to enable the student to become proficient. Set one of the following examples, according to the face on the machine, being careful to raise the words that are in italic, or bold face, on the duplex rail:

EXAMPLES FOR *ITALIC* PRACTICE

Plurals of family names.—The *plurals* of *family names* are formed by the addition of *s* or *es;* as: Jones, *Joneses;* Higgins, *Higginses;* McIntyre, *McIntyres;* McCann, *McCanns,* etc.

Prima facie.—This term is of *Latin origin, used in law,* and means *"at first view."* It is pronounced, *prai'ma fe'shi-i—ai* as in *aisle, a* as in *final, e* as in *prey, sh* as in *ship,* first *i* as in *habit,* second *i* as in *police.*

Speak, talk, utter.—Speak is from the Anglo-Saxon *specan,* and means *"to utter articulate sounds or express thoughts by words."* To *talk* is *"to speak fluently and familiarly." Talk* is from Anglo-Saxon *talian,* speak. *Utter* is from Anglo-Saxon *utian,* put out, and means *"to express with the voice, as by putting out or making sounds be they articulate or not."*

Doctor Fernald says, "To *talk* is to *utter* a succession of connected words, ordinarily with the expectation of being listened to. To *speak* is to give articulate utterance even to a single word; the officer *speaks* the word of command, but does not talk it. To *speak* is also to *utter* words with the ordinary intonation, as distinguished from singing. To *chat* is ordinarily to

utter in a familiar, conversational way; to *chatter* is to *talk* in an empty, ceaseless way like a magpie."—*English Synonyms, Antonyms, and prepositions.*

EXAMPLE FOR *BOLD FACE* PRACTICE

A SUPERLATIVE ENGINEERING FEAT

Preeminently the Car of the Season

The Lexicon is distinguished immediately **from all other cars anywhere near its price** by its **sparkling, speedy performance. Only Lexon** could have **produced** this **superlative** value. **Here, at last,** is **a car** of **modest** cost with a **brilliant** inheritance of those **wonderful qualities** of **performance** and **endurance** that have built **Lexon's great reputation among car owners.**

On the **road** the **Lexicon** literally **does wonders! Lightning quick** on the throttle . . . **smooth throughout** the **entire** driving range . . . **delightfully** balanced . . . **incredibly** easy to handle . . . **quiet, steady!** Under the hood **there's a marvelous engine** with the **largest** piston **displacement** in this price field—**an engine** that displays **unrivaled mastery** of performance in **every** expression of **power** and **stamina** and **speed!**

And **a host** of other **extraordinary features! Handsome Bodies,** upholstered in **remarkable new waterproof, dustproof, wear-resisting mohair.**

Most Complete at the Price

So many quality features does **the Lexicon** embody that it has been called **the most complete car** ever offered **in the moderate-price field.** And although **the Lexicon** is the **outstanding quality car** of the moderate-price class, **the liberal terms** make owning it **very convenient** and **economical, easy to budget.**

See this **matchless** new six. And **don't delay** having an experience at the wheel—**drive the Lexicon** . . . and know why **everyone everywhere** is saying **"A GREAT CAR."**

Centering Headings

When the characters used in a heading do not fill the line, place an equal number of em and en spaces 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 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 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 Self-Quadder

While the purpose of this booklet is clearly that of explaining fundamental typographic problems which confront student Linotype operators, the introduction of the Linotype Self-Quadder has brought about a new method of handling certain classes of composition. The Self-Quadder does automatically some of the previous time-consuming operations.

The Linotype Self-Quadder is a development of the assembling, vise jaw, and justification mechanisms which provides automatic quadding at either end of the line or automatic centering as desired, and yet at the same time provides for setting full lines with normal justification in the regular way.

After setting the text of the line in the assembling elevator in the regular way (either with or without spacebands for spaces between words) and before "sending the line away," the operator merely indicates the desired quadding or centering by setting a small conveniently-located lever. Then the line is transferred by raising the assembling elevator, and further operations to center and quad the text on the slug are automatic. Thus, the process of counting and inserting spaces is eliminated and the formerly slow operation is performed quickly and accurately by the machine.

Small Capitals, Their Use and Practice

SMALL CAPITALS, being used less frequently than the regular capital and lower-case letters, are placed on matrices the italic characters of which are not used so often. Also matrices are selected for the small capitals of the proper thickness to give the letters the right proportion. This, of necessity, causes the small-capital alphabet to be somewhat scattered over the keyboard, but with a little practice considerable speed in composition can be attained.

Small-capital letters and characters are obtained by assembling the matrices on the duplex rail, which causes them to be cast in the auxiliary position. The small capitals x and z run pi. These are inserted by hand directly into the assembling elevator, and run down into the pi stacker at the right side of the machine.

In capital and small-capital composition, it is necessary to lower the capitals and punctuation marks to normal position or they will cast italic. Always be sure to lower the comma with small capitals, so it will not cast italic. The matrices should be lowered *after* the line has been assembled.

Practical Use of Small Capitals. Typographic usage recognizes an added resource in the use of small capitals, or capitals and small capitals combined. Occasions for their use may be noted in programs, menus, contents, indices, subheads, side-heads, and in the text of plays.

The student for the present should use the Alphabetic Sentences in Sentence Practice, Exercise 9 *(see page 19),* for practice until thoroughly familiar with the location of each small-capital letter.

Study of the Chart. A close study of the keyboard layout of the small capitals should be made. This is made necessary by the fact that these letters are seldom used, but this does not excuse the good operator for being unfamiliar with their location on the keyboard.

Two examples are given herewith for practice. The first is from the play, *The Pilgrim Spirit,* giving the name of the speaker in small capitals and other names in capitals and small capitals. Set twice, recasting the names where possible:

MRS. GREENWOOD

Yes, mine if you will, but not yours! Not yours! *(Wanly)* Perchance there may be another respite.

BARROW

(Who has been walking up and down) Nay, no more respites. Last month they had struck off our chains and stood ready to bind us to the cart to take us to our deaths. A reprieve. Another day they took us to the place of execution and tied the nooses around our necks to the gallows. Again a reprieve. Enough of reprieves! What our words, what our lives could not do, our deaths will. Men pass; ideas abide.

MRS. GREENWOOD

JOHN HENRY, pray! I cannot. Pray that God give me strength.

As her husband comforts her, BARROW *begins praying. Distantly a bell strikes ten.*

MRS. GREENWOOD

Only seven hours to daybreak! Only seven.

She clings to GREENWOOD, *sobbing hysterically. To the sound of* BARROW'S *half audible praying, the lights close in.*

SCENE III

THE OPPOSITION—*April, 1602*

The Royal March in this scene was composed by

EDWARD BURLINGAME HILL

The lights come up quickly and full. There is a rush and scurrying of children and the young people across the way.

The second specimen is from *Historical Plays of Colonial Days,* showing the name of the speaker in capitals and small capitals. The example should be set at least twice.

PATIENCE.—Oh, that would be dreadful!

MARGARET.—I should not dare.

ANNE.—Well, *I* shall dare. Will you come?

MARGARET AND PATIENCE.—Oh, no, no!

ANNE.—You can't be over-thirsty, then. *(She starts off, but spies the sack of apples.)* Oh, look! Patience! Margaret! See what I have found! *(She holds up an apple.)*

MARGARET.—Why, what is it?

PATIENCE.—Oh, how lovely and smooth it is, and so red!

MARGARET.—It looks like the berries that the Indians call tomatoes.

ANNE.—Nonsense!

MARGARET.—Well, do you know what it is?

ANNE.—Yes! It is a pomegranate.

PATIENCE AND MARGARET.—A what?

ANNE.—A pomegranate!

MARGARET.—How do you know?

ANNE.—I've read of them.

MARGARET.—Are you very sure?

ANNE.—The prince always says, "Her mouth was a split pomegranate set with pearls."

PATIENCE.—Why, Anne Bradberry! What dost *thou* know of princes!

Newspaper Composition

THE PURPOSES for which this booklet has been prepared do not extend to every phase of work which operators are expected to know. Rather, as stated in the introductory page, it has been limited to some of the fundamentals found in the book *Linotype Keyboard Operation.*

Newspaper Styles. Newspaper typography is a technique unto itself. Every office has its own particular style as to type faces, capitalization, punctuation, the use of proper names, and other printing customs. Many plants provide the operator with style sheets or books containing the printed styles in use. He must follow this style faithfully to avoid having his proofs marked up by the proofreader. The student operator may familiarize himself with styles of various newspapers by using reprints from news and editorial columns of large dailies as copy while practicing as a beginner.

Newspaper Body Type. The sizes generally used for newspaper composition are as follows: For body type, 7, 7½ or 8 point, and leaded one point. For want ads, stock and market lists, etc., it is customary to use 5½ or 6 point. With the development of the Linotype Legibility Group—Ionic No. 5, Excelsior, Paragon, Opticon and Corona—the public has come to realize the comfort to be found in the newspapers that use these faces.

Newspaper Heads. Most of the heads in newspapers are now Linotype-set. While many suitable faces are available on the Linotype, the most popular faces found in modern newspaper heads are members of the Bodoni, Erbar, Metro, Spartan, Memphis, Ryerson and Caledonia families. As previously stated, most newspapers have specified styles which must be followed. However, if the operator has any choice in the matter, he should see to it that only related faces are employed together in heads.

Display Advertisements. Today, Linotypes are of such capacities and Linotype display type faces are available in such widely varied sizes and designs that newspaper heads and display advertisements are frequently completely Linotype-set. Usually advertisements are sent to the operator carefully laid out, with the kinds and sizes of type specifically designated. Spacing is important in the proper composing of these advertisements.

Display Want Ads. Supplanting the typographic styles of display want ads of years ago, when many condensed outline faces were used, such faces as Metrothin, Metrolite, Memphis Light and Spartan are now widely used.

There are many details of newspaper composition which must be learned by Linotype operators. Special equipment in the forms of special keyboard layouts, display molds, duplex display matrices and others, which require special technical training and mechanical adeptness. Since speed is often a requisite in meeting dead-lines, unhesitating familiarity is a "must" which only can be acquired through practice and experience.

Equipment Information

THE OPERATOR or shop owner who desires to get the very best of results from a Linotype—which means wonderful results—should heed the instructions which follow to the letter. The loss of time involved is so small that it is hardly a factor in the busiest of shops, the practice applied really speeding up production in the Linotype Department, as it preserves machine equipment and assures its availability for use at a moment's notice.

Keep Sorts in Cabinet. All matrices used as sorts in the shop should be kept, when not in daily use, in the regular sorts tray cabinet. This applies also to Gothic or other small job fonts, rule and leader-work matrices, border slides, and border matrices. The sorts cabinet is made to hold eight or twelve trays and can be placed on the floor, near the operator very conveniently. The trays can be placed on the machine while in use. The operator must take care of his matrices. If he neglects to do this he will not have sufficient to work with. This will cause loss in production, especially when he is called upon to set composition of wide measure and finds himself short on some of the lower-case letters.

Care of the Matrices. At the end of each day every matrix which runs down the pi channel should be put back on its proper tray and the tray put away in the sorts cabinet. Matrices should be picked up off the floor when dropped; those that are bent, straightened, if they are not too badly damaged, and run back in the machine. Do not run dirty or oily matrices back into the magazine.

Care of the Spacebands. Particular care is also necessary with regard to the spacebands. The spacebands must be cleaned of metal accumulations at least once in every eight hours' operation by rubbing on a graphited pine board. They should not be rubbed in a circular manner as this bevels the edges, but should be moved back and forth. Do not use too much graphite. As each spaceband must drop into the assembling elevator by its own weight, it is very important that the sleeve should function freely. After cleaning each spaceband see that the sleeve moves up and down without binding, before replacing it in the spaceband box.

Spacebands should be kept in a box containing a small amount of graphite, when not in use, this being done to prevent them from accumulating rust, due to dampness, while the machine is idle. The proper polishing of spacebands on soft pine board should not be neglected, however, before replacing them in the machine.

Cleaning the Matrices. Do not clean matrices with gasoline, benzine, acid, or steel-wire brush. A good way to clean them is to use the matrix reference cleaner (X-1604), placing a row of matrices upon a galley so that they may be handled to good advantage. This rubber will produce a high

polish or luster that will enable the operator to read the reference side of the matrices distinctly. Remember to clean only the ears and the toes; do not touch the sides of the matrices.

A faster and perhaps better way to clean matrices is with the Perfect Matrix-Cleaning Holder and Brush. The holder will accommodate 18½ inches of matrices clamped in by tightening a thumb screw at one end. The soft wire brush is made with either of two diameter center holes to fit saw arbor sizes most commonly used. In the holder, the characters and sidewalls are safeguarded during the cleaning by a protecting rail, while the front and back lugs and reference sides are exposed to the buffing and cleaning action of the brush.

The foreign substance removed from the lugs will insure freedom from sticking when the matrices are run into the magazine and various parts of the machine.

Tight Lines. This has the most harmful effect on both machine and matrices, and with very little effort can be easily avoided by the operator simply setting his slide stop at little less than the measure to be set and not crowding the lines too tight.

In some few cases where an inexperienced person has moved the position of the various machine scales for cleaning, and has replaced them improperly, proper replacement can be made by using a slug between the vise jaws, and also between the assembler slide finger and the star wheel, the left vise jaw being set the proper slug length, while the assembler slide is set slightly under the measure, just so the slug fits tight between the assembler slide finger and the star wheel.

The setting of the scales or measures accurately, together with the knowledge that four medium-size spacebands will justify one pica, will do much to eliminate abuse of the machine and its matrix equipment.

Watch for Bent or Cut Matrices. If at any time while operating the machine the operator notices a bright mark, either on the face of the matrix or on the ear or toe, and this shows up frequently, he should either call the machinist, or, in the event that he is caring for the machine himself, look at the vertical alignment and parts of the machine that might be causing the damage. If the line does not seat itself properly in the vise jaws, the mold will shear the toes of the matrices. Any noticeable damage that is being done should be remedied immediately, before the font is badly damaged or destroyed. Whenever a hair-line matrix shows up in a proof, remove it immediately from the magazine. A matrix proof of the fonts should be taken regularly, and all doubtful letters or characters removed.

Matrix Combinations. The word "combination" used in connection with a Linotype matrix refers to the sawlike teeth which are found on the sides of the triangular opening at the top of the matrix. There are seven of these teeth on each side, and for convenience in referring to them they are num-

bered from 1 to 7. The teeth on both sides are numbered alike, and in cutting combinations both sides are treated alike.

A matrix with all its teeth is called a "pi" matrix because it will not drop in any of the character channels, but run clear across the distributor bar and drop through the chute into the sorts stacker.

In order to cause the matrices to drop in their respective channels, certain of the combination teeth must be removed. This is called "cutting the combination."

There are ninety channels in a Linotype magazine for body matter, and to drop matrices in all these it is necessary that each character shall have a tooth combination different from any other. This means that there are in an ordinary font of English matrices ninety different combinations. Including the combination for the extra "e" and the full combination for sorts matrices, the total reaches ninety-two. Magazines for larger type sizes carry either ninety or seventy-two channels.

Destruction of Matrix Combinations. The matrix combination, a very important part of the matrix, is sufficient under ordinary conditions to last for years. It is possible, however, to ruin a set of matrices in a very short time by cutting or wearing out the combinations. The cause of the combination becoming injured is invariably due to bad alignment at one or possibly all of the various transfers.

Care of Liners. The task of keeping the corners on the liners square should receive special attention. The proper square ends or corners help considerably in making easier the task of setting any kind of multiple slug printing.

The liners, when removed from the mold, should be assembled on a cross stick in a wooden box or board, where there will be no possible chance of injury to the ends. The verification of measures before starting to work on the machine will also do much to prevent the ejector blade from injuring the liners, due to an improper setting. A point to be remembered in this connection is that the ejector setting must coincide with the space left in the mold after the liners are inserted.

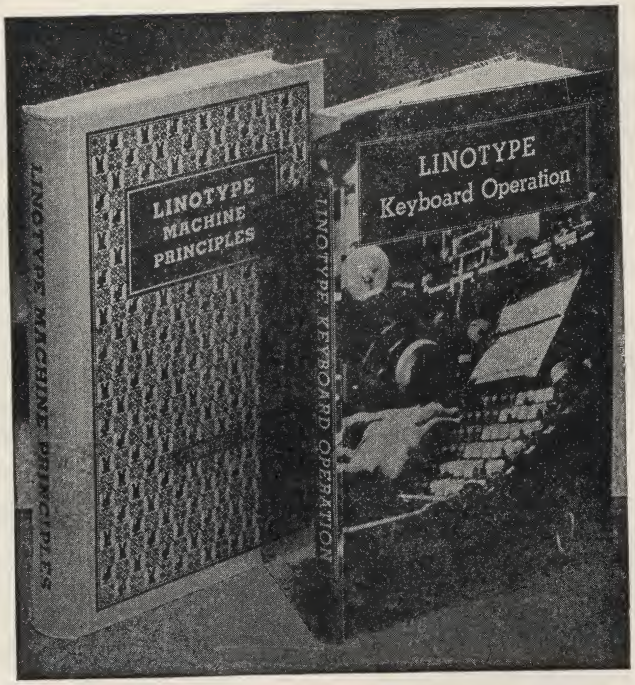
Transfers at Three Points. There are three transfers involved in the automatic actions of the Linotype where matrices may be injured if the adjustments are not accurately made; that is to say, the matrices are transferred at three distinct points where the combinations are involved.

Location Where Damage May Occur. The first transfer is from the first elevator jaws to the second elevator bar, at the intermediate channels. A matrix when in position in the first elevator jaws at this transfer point should line up with the bar, so that you will have a perfect transfer on to the bar without binding. There is a set screw at the bottom of the first elevator slide on the right-hand side for raising or lowering the slide. The alignment should be made as nearly perfect as possible, and if the second elevator head, for

any reason, does not seat properly on the intermediate channel rails or if these rails are out of true, the trouble should be remedied. The second elevator bar should be perfectly smooth and free from burrs. This same rule applies to the distributor box bar and the distributor bar.

The *second transfer* is from the second elevator bar to the distributor box bar. The second elevator, when in its normal position, should be so adjusted that the second elevator bar will line up with the distributor box bar. Any condition or obstruction preventing these bars from aligning properly should be removed.

The *third transfer* is from the distributor box rails to the combination bar. The distributor box rails should be perfectly square with one another. Place a matrix on the distributor box rails and raise the outside distributor screw; then turn the distributor slowly by hand and see that the matrix when supported on the distributor box rails will transfer freely to the combination bar. There must be perfect alignment at all these points, otherwise undue wear on the matrix combinations will result. (Use a sorts matrix with full combinations when making these tests.)



Two Books Every Printer Needs

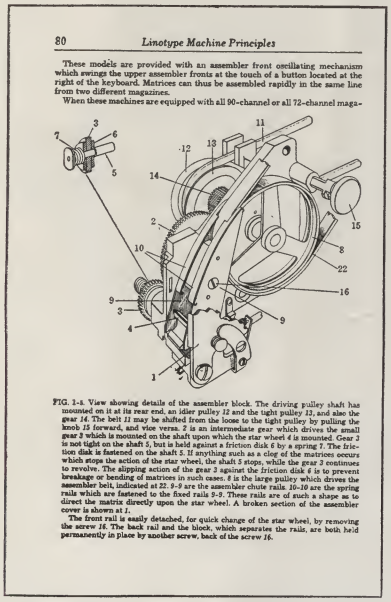
Every printer, operator, machinist, apprentice and student of printing should have *Linotype Machine Principles* and *Linotype Keyboard Operation,* official Linotype publications.

Revised and corrected, *Linotype Machine Principles* has been entirely rewritten and illustrated. Much of the technical information contained in the pages of *Linotype Maintenance Manual* has been taken from this authoritative book. It is a complete compendium of mechanical information concerning Linotypes.

All Linotype agencies have these books in stock. Order from your nearest agency. Either or both books (as desired) will come to you by return mail, post paid. Or, ask your Linotype Production Engineer about them.

Linotype Machine Principles

EVERY MECHANISM of the Linotype (both Blue Streak and earlier models) is explained simply and thoroughly in this book. It is the result of two years' effort by Linotype engineers and technicians and has been carefully checked by independent machinists with



80 *Linotype Machine Principles*

These models are provided with an assembler front oscillating mechanism which swings the upper assembler fronts at the touch of a button located at the right of the keyboard. Matrices can thus be assembled rapidly in the same line from two different magazines.

When these machines are equipped with all 90-channel or all 72-channel maga-

FIG. 1-s. View showing details of the assembler block. The driving pulley shaft has mounted on it at its rear end, an idler pulley *12* and the tight pulley *13*, and also the gear *14*. The belt *11* may be shifted from the loose to the tight pulley by pulling the knob *15* forward, and vice versa. *2* is an intermediate gear which drives the small gear *3* which is mounted on the shaft upon which the star wheel *4* is mounted. Gear *3* is not tight on the shaft *5*, but is held against a friction disk *6* by a spring *7*. The friction disk is fastened on the shaft *5*. If anything such as a clog of the matrices occurs which stops the action of the star wheel, the shaft *5* stops, while the gear *3* continues to revolve. The slipping action of the gear *3* against the friction disk *6* is to prevent breakage or bending of matrices in such cases. *8* is the large pulley which drives the assembler belt, indicated at *22*. *9-9* are the assembler chute rails. *10-10* are the spring rails which are fastened to the fixed rails *9-9*. These rails are of such a shape as to direct the matrix directly upon the star wheel. A broken section of the assembler cover is shown at *1*.

The front rail is easily detached, for quick change of the star wheel, by removing the screw *16*. The back rail and the block, which separates the rails, are both held permanently in place by another screw, back of the screw *16*.

A page from Linotype Machine Principles showing the careful attention to detail that is characteristic of the whole book.

years of experience maintaining Linotypes in both newspaper and commercial plants.

Linotype Machine Principles has been arranged in the sequence of the basic operations of the machine. Included in this book are detailed descriptions of the new features of the Linotype together with instructions on their care and operation (Micro-Therm, Self-Quadder, Universal Precision Knife Block, and other Linotype features).

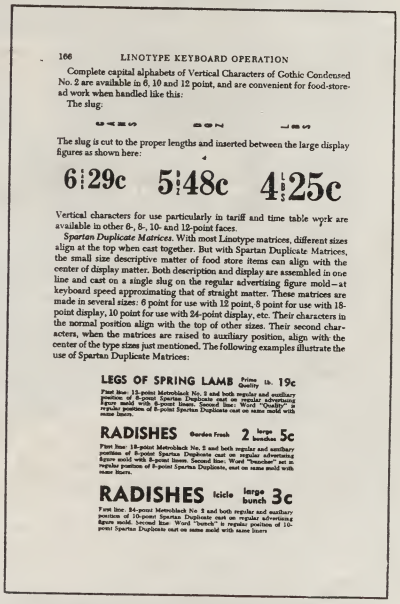
There are more than four hundred drawings in the thirty-six chapters of this new book, giving graphic explanation of most of the adjustments and methods of maintenance. Full cloth binding, 473 pages and a carefully detailed index with full information on Linotypes as recent as the Blue Streak Model 32.

Linotype Machine Principles is $3.50 a copy post paid from any Linotype agency (including packing and handling).

Linotype Keyboard Operation

THE NEW EDITION of *Linotype Keyboard Operation* has been carefully revised, brought up to date and reset in Linotype Caledonia. This book has been written from the point of view of the operator and includes detailed discussions and explanations of most of the work he encounters.

It is profusely illustrated and provided with numerous examples of tabular work, run-arounds, food-store and many other unusual methods of composition. There are very few typesetting practices that the operator won't find fully explained in this carefully detailed book.



166 LINOTYPE KEYBOARD OPERATION

Complete capital alphabets of Vertical Characters of Gothic Condensed No. 2 are available in 6, 10 and 12 point, and are convenient for food-store-ad work when handled like this:

The slug:

The slug is cut to the proper lengths and inserted between the large display figures as shown here:

6 29c 5 48c 4 25c

Vertical characters for use particularly in tariff and time table work are available in other 6-, 8-, 10- and 12-point faces.

Spartan Duplicate Matrices. With most Linotype matrices, different sizes align at the top when cast together. But with Spartan Duplicate Matrices, the small size descriptive matter of food store items can align with the center of display matter. Both description and display are assembled in one line and cast on a single slug on the regular advertising figure mold—at keyboard speed approximating that of straight matter. These matrices are made in several sizes: 6 point for use with 12 point, 8 point for use with 18-point display, 10 point for use with 24-point display, etc. Their characters in the normal position align with the top of other sizes. Their second characters, when the matrices are raised to auxiliary position, align with the center of the type sizes just mentioned. The following examples illustrate the use of Spartan Duplicate Matrices:

LEGS OF SPRING LAMB Prime Quality lb. **19c**

First line: 12-point Metroblack No. 2 and both regular and auxiliary positions of 8-point Spartan Duplicate cast on regular advertising figure mold with 8-point liners. Second line: Word "Quality" in regular position of 8-point Spartan Duplicate cast on same mold with same liners.

RADISHES Garden Fresh **2** large bunches **5c**

First line: 18-point Metroblack No. 2 and both regular and auxiliary positions of 8-point Spartan Duplicate cast on regular advertising figure mold with 8-point liners. Second line: Word "bunches" set in regular position of 8-point Spartan Duplicate, cast on same mold with same liners.

RADISHES fcicle large bunch **3c**

First line: 24-point Metroblack No. 2 and both regular and auxiliary position of 10-point Spartan Duplicate cast on regular advertising figure mold. Second line: Word "bunch" in regular position of 10-point Spartan Duplicate cast on same mold with same liners

A page from Linotype Keyboard Operation which shows some of the hundreds of graphic demonstrations of composition styles.

Linotype Keyboard Operation is divided into four general classifications: Keyboard Practice; Commercial Composition and Book Work; Newspaper and Advertising Composition; and Equipment Information. With the detailed index, it contains 180 pages of information for every printer.

Because of its attractive cloth binding, this book should be in every printer's personal library, as well as being a good style reference.

Linotype Keyboard Operation may be ordered from any agency for $2.75 a copy post paid (including packing and handling).

The Linotype Life Extension series of booklets, which are free for the asking. Published to help composing-rooms with the important maintenance routines that are necessary to efficient production.

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