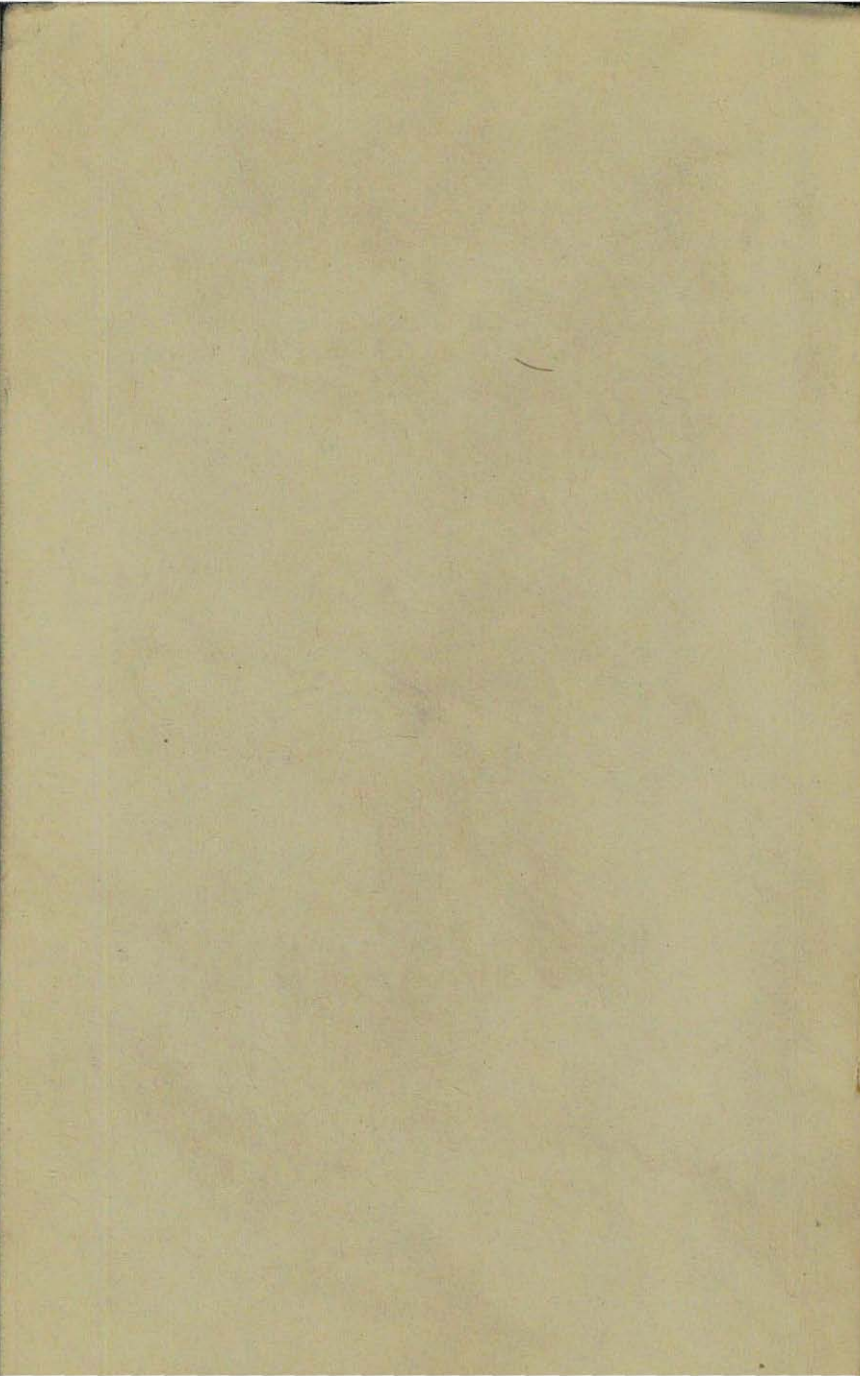


LINOTYPE
KEYBOARD OPERATION
AND HINTS TO LEARNERS

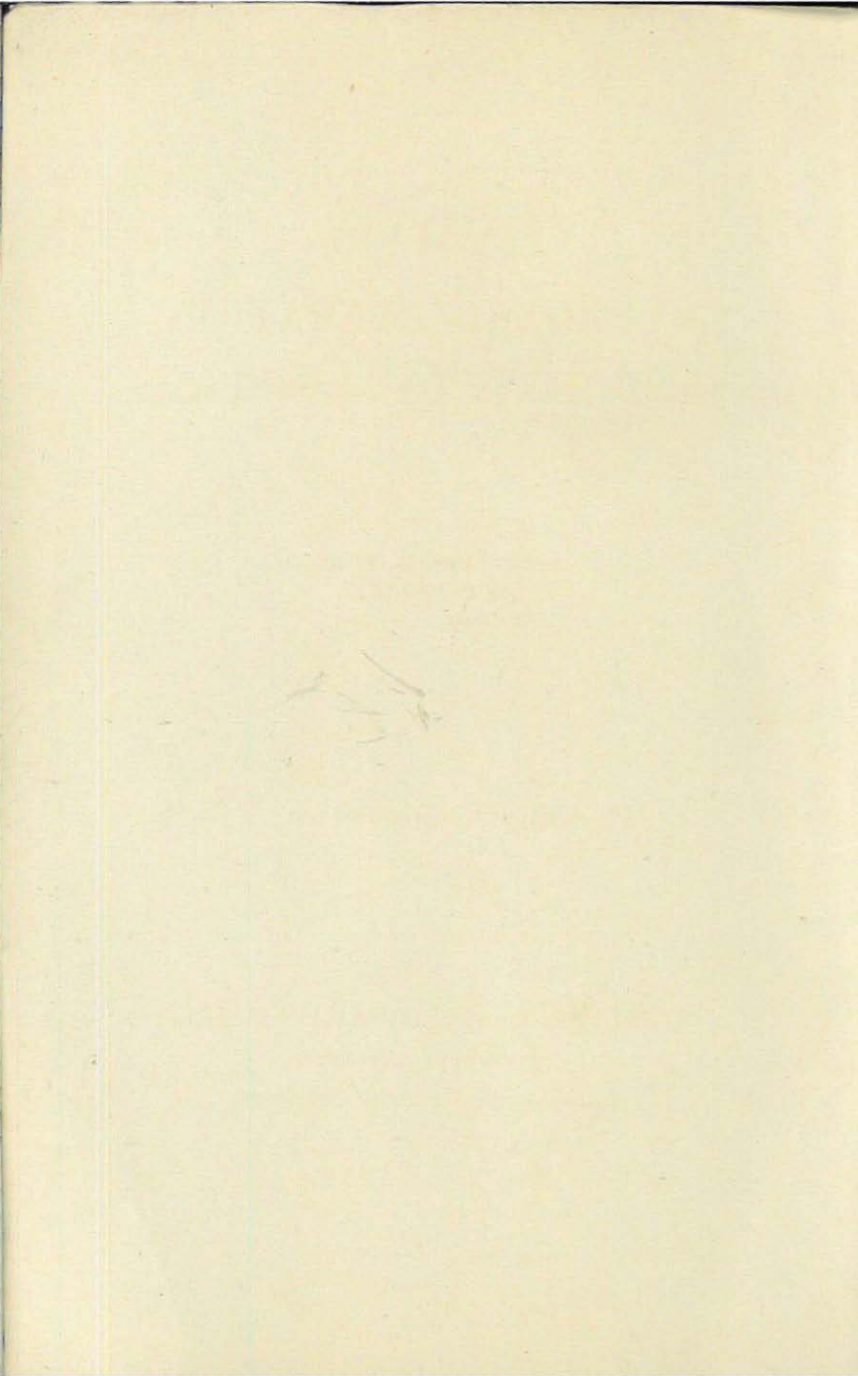
**PUBLISHED FOR
THE BENEFIT OF
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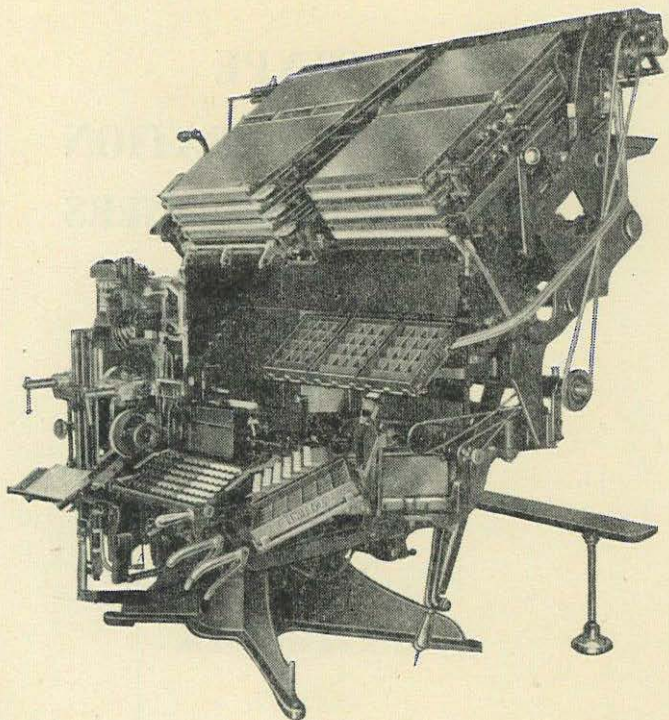


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LINOTYPE & MACHINERY LIMITED
LINOTYPE HOUSE,
21 JOHN STREET, LONDON, W.C.1



MODEL 48 S.M. LINOTYPE

*A single-distributor machine, equipped with eight
magazines, optic-aid front, automatic three-way
quadder and automatic metal feeder*

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**THIS HANDBOOK IS COMPLETELY SET ON
THE LINOTYPE**

Faces used:

COVER AND TITLE:

18-point and 14-point Times Heading Bold
Condensed.

11-point Times Roman with Times Heavy.

8-point Times Roman with Times Heavy.

Rule Block No. 271.

TEXT PAGES:

Body set in 10-point Times Roman with Italic
and Small Caps.

Headings in 11-point Times Roman with Times
Heavy.

Examples in 8-point Times Roman with Italic
and Small Caps; and with Times Heavy.

*Students are advised to read the whole of this hand-
book before attempting to operate the machine or even
to learn the layout of the keyboard*

HOW TO OPERATE THE KEYBOARD

A GREAT deal has been written on how to attain speed on the Linotype machine. Generally speaking, only the keyboard has been dealt with, each writer advocating some particular style of operating. Each style has its followers, amongst whom there are good, medium, and poor operators.

The secret of speed is not entirely dependent on the keyboard. It is necessary for an operator to understand thoroughly the spacebands and assembler, and he must operate without constantly looking at the keyboard.

Before trying to become a *fast* operator, become a *good* one. Be certain that you have mastered most of the details of composition and can set from 6,000 to 7,000 ens an hour, *and do it every hour of the day and every day of the week*, WITH A CLEAN PROOF. This is more to be desired than great speed. It is the man who can be depended on in an emergency to show clean proofs and reasonable speed who gets the job and holds it. Speed is a good thing, but *accuracy* is equally important. It is only corrected matter that is chargeable.

Therefore do not at first worry too much about your speed, but rather strive for accuracy; then when you have become a good, reliable operator, you can concentrate on increasing your speed.

First note the position of the characters on the keyboard. This can be done either from the keyboard itself or from a facsimile, preferably the latter. You should then commit the keyboard to memory, and fix in your mind the exact position of every character so that you can name them the horizontal way or the vertical way in their order.

It is important to learn the piano method of operating—*i.e. touching the proper keys without looking at them*. Too much emphasis cannot be laid on this point. You must strive to do this.

You cannot become even a fair operator if you depend on glancing continually from the copy to the keyboard. Remember this and practise the proper method of operating from the beginning.

Avoid the one-finger method of operating—that is, using only one finger of each hand to touch all the keys. This is the way a would-be operator usually begins if not cautioned against it. It is a bad habit and is hard to abandon when once acquired.

There is no royal road to learn the operation of the Linotype. To become an operator worthy of the name requires constant practice. If a student is not willing to apply himself diligently, he will not become an expert operator.

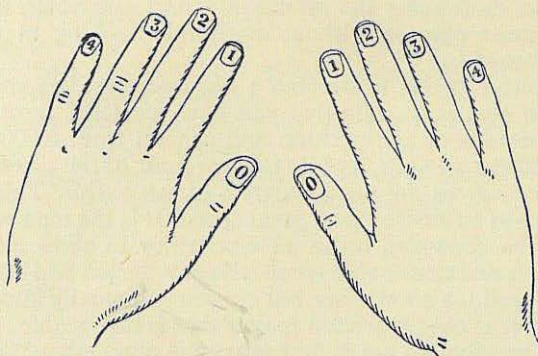


DIAGRAM OF FINGER REFERENCES

Sit in front of the keyboard, so that the first two rows of buttons on the left side of the keyboard (e-t-a-o-i-n and s-h-r-d-l-u) come opposite the centre of your body. Place the left hand over the keyboard (see Diagrams of Finger and Key References) so that the third finger rests over the "e" button and the thumb over the "i" button. In this position the fourth finger is convenient to the spaceband key and is the one used for releasing the spacebands.

The right hand must control the remainder of the keyboard, except in cases where a large number of consecutive caps are required, when it is best to move both hands over to the cap keys, and proceed the same way as when working on the lower-case side.

As the left hand seldom leaves its position over the first two rows of keys, the right hand will have plenty

to do in assisting the left with the letters in the third, fourth, and fifth rows, the points, figures, and caps.

On page 9 are examples of fingering which the student should practise until he knows them thoroughly. Later on he can make up any number of similar finger exercises for himself. In these examples, 1 denotes the first finger, 2 the second, 3 the third, 4 the fourth, and 0 the thumb (see Diagram of Finger References); *l* denotes the left hand and *r* the right hand.

This list could be extended indefinitely, but it is unnecessary to do so, as the student can, after practising the combinations given, work out for himself anything that may come up in the course of operating.

Where the same letter occurs twice in succession in the same word, hold down the button until two matrices are released.

The fourth finger of the right hand will be found the most convenient for the comma and full point.

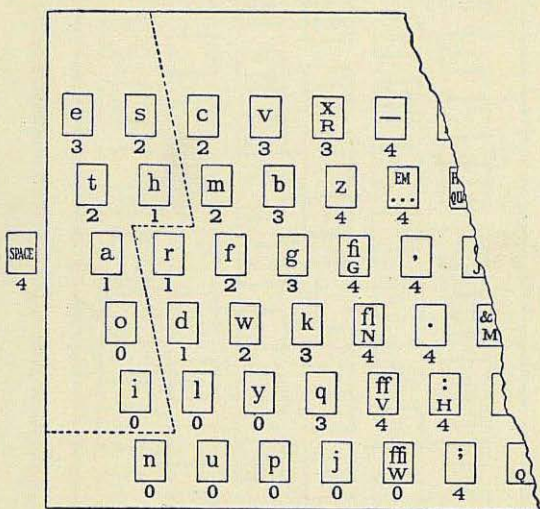
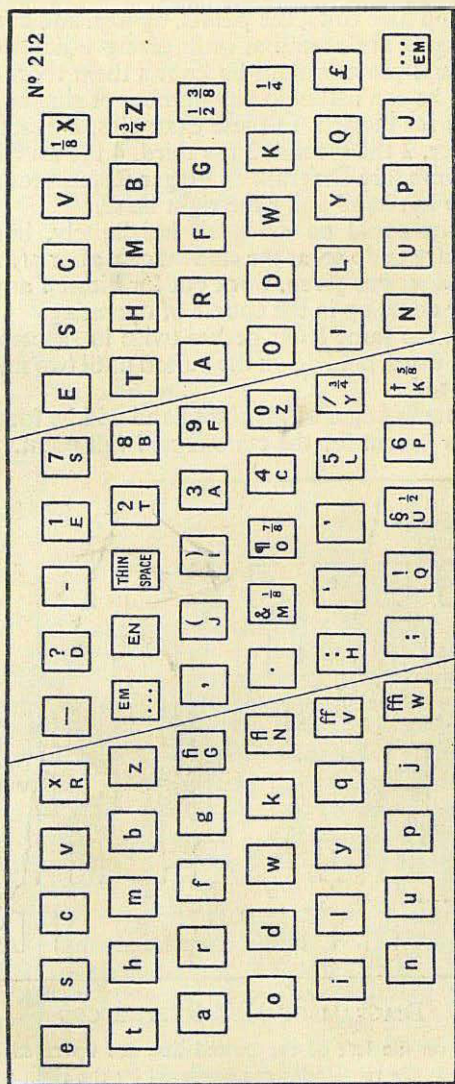


DIAGRAM OF KEY REFERENCES

The keys on the left of the dotted line are operated by the left hand; the remainder are operated by the right hand.

PLAN OF LINOTYPE MAIN KEYBOARD



A facsimile plan of the keyboard is attached to the third cover page of this handbook.

EXAMPLES OF KEYBOARD FINGERING

(See instructions on page 7)

t h e
2l 1l 3l

t h a t
2l 1l 1l 2l

t h i s
2l 1l 0l 2l

t h e r e
2l 1l 3l 1r 3l

t h o u g h
2l 1l 0l 0r 3r 1l

t h i n g
2l 1l 0l 0r 3r

a n d
1l 0r 1r

a r m
1l 1r 2r

a r m e d
1l 1r 2r 3l 1r

l o v e
0r 0l 3r 3l

l o v i n g
0r 0l 3r 0l 0r 3r

l i v i n g
0r 0l 3r 0l 0r 3r

m o v e
2r 0l 3r 3l

m o v e s
2r 0l 3r 3l 2l

m a n
2r 1l 0r

m a n y
2r 1l 0r 0r

b o y
3r 0l 0r

b o w l i n g
3r 0l 2r 0r 0l 0r 3r

b a n d
3r 1l 0r 1r

r u n n i n g
1r 0r 0r 0r 0l 0r 3r

k i c k
3r 0l 2r 3r

u n i o n
0r 0r 0l 0l 0r

f i g u r e
4r 3r 0r 1r 3l

f i z z l e
4r 4r 4r 0r 3l

Important Factors in the Attainment of Speed

There are other things that enter into the training of a fast operator besides that of manipulating the keyboard. Here are some of them :

When you get a piece of copy, look it over before you begin work on it, and be sure you understand what is wanted. A few moments spent thus may save resetting the take.

Do not make false movements.

Do not sacrifice accuracy for speed.

Do not acquire a spasmodic, jerky method of operating. Learn at the start to keep up a steady movement, and one that you can carry on all day and every day.

Gradually increase your speed and decrease your errors.

Be careful to learn the style (spelling, capitalization, punctuation, etc.) of the office in which you are working.

Whilst you may never become an exceptionally swift operator, any beginner who sets out to do so will become a good and reliable operator. There are more operators averaging from 7,000 to 9,000 ens than from 14,000 to 20,000 ens.

SPACEBANDS.—If you want to make good progress you must make a study of the spacebands and become acquainted with their exact capacity. Only by acquiring this knowledge can you hope to attain good speed.

When the bell rings, about two ems are left before the line is actually full; if there are eight spacebands in the line, these should be sufficient to justify the line. This is, of course, only a rough estimate, because it depends on the size of the spacebands and fount in use, but it is good enough as a basis for calculation, and will assist you to arrive at a perfect judgment of the capacity of the spacebands. The importance of your having this knowledge is obvious, because then you will never be at a loss to know whether the line will cast or not, nor will you insert by hand any unnecessary matrix spaces.

After a while you will find that you will spend more time looking at the assembling line and copy than at the keyboard; then you will find that the bell is easily ignored, and that it is permissible to send away a line before the bell rings if there are sufficient spacebands in the line to justify it.

ASSEMBLER.—Any corrections in the assembler box should be made with the left hand, and if possible, without opening the gate. Should a correction necessitate the lifting out or re-arrangement of several words, it will be found quicker to send the line away as pie, and reset it, unless of course the work is very intricate, when you must use your own judgment.

If the gate must be opened, be sure when closing it that the shoulders of the spacebands are resting on the top. If a spaceband should fall beneath the surface, the assembled line of matrices will not enter the delivery channel. When this occurs, care must be exercised to prevent the line from becoming pied. It must be pushed back gently into the assembler box to within an inch of the starting point; then the box must be lowered a little to avoid bending the pin which releases it, and the short finger pushed right back, when the line can easily be lowered to the setting position.

In thin spacing a line by hand, the thin matrices should be placed on the right-hand side of the spacebands; otherwise they may get fixed between the sections of the spacebands.

Exercises for Linotype Students

After locating and memorizing all the characters on the keyboard, the student should proceed with the exercises herein set out. Each exercise should be set as many times as is necessary, i.e. until the student is able to set them quickly and cleanly.

Before setting the exercises, however, the student should make himself familiar with the information contained in the following three paragraphs.

Interpreting Copy.—The Linotype operator must read and comprehend copy much faster than the hand

compositor, whose hand motions in type-setting 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 errors 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 the 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, figure work, or matter with 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 daily reading during leisure hours. 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.—The operator is 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. The 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 assembler box.

EXERCISE 1.—*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 initial are in one colour, 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 judicious and zealous 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 2.—*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 colours: 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 Orchard Street, Birmingham.

"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'?"

The chief difficulty lies in the use of the comma, semi-colon, colon, and full-point. In general they correspond (in the order named) to shorter or longer pauses as heard in correct speech; but no absolute rules can be given.

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.

EXERCISE 3—*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 lower-case section. The capital-letter section is usually operated with the right hand only.

A few words are given in this exercise for the purpose of practising, but the beginner should set a whole paragraph in capital letters in order to familiarize himself with this work.

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

| | | |
|--------|----------|-------------|
| HAZY | TARGET | SPASMODIC |
| JUMP | WROUGHT | FORBIDDEN |
| BACK | HOWEVER | EXCELLENT |
| KNOW | INTEREST | KNOWLEDGE |
| THESE | PECULIAR | PSYCHOLOGY |
| LARGE | QUESTION | THEORETICAL |
| SHOULD | CHARMING | GOVERNMENT |

When only one capital is wanted, as in setting a proper name or the first word of a sentence, the fourth finger should be used for letters in the lower two rows, the third finger for letters of centre two rows, and the second finger for the letters on the upper two rows. This will reduce the movement of the hand to a minimum, both vertically and horizontally.

EXERCISE 4—*Capitals and Lower-case*

Practise setting each of the following lines; continue this until perfect. Make a special point of even word spacing.

| | |
|-----------------------------|-------------------------------|
| Linotype Composing Machine | Kensington Gardens Square |
| Friday, March Nineteenth | Messrs. Smith & Robinson |
| Punctuation Simplified | 21 John St., London, W.C.1 |
| Capitals and Lower-Case | Chipping Ongar, Essex |
| Mr. John W. Brown | Instructions for Lubricating |
| Romford, Essex, England | Sir William Hutter, Bt., M.P. |
| About Social Democracy | L.C.C. Offices, Westminster |
| Lt.-Col. Rogers-Brown, R.A. | The B.B.C.'s New Premises |

EXERCISE 5—*Double-Letter Matrix Practice*

Composition involving the use of the double-letter assembler rail, for the mixing together of roman and italic or roman and bold face, requires persistent practice to enable the student to become proficient. This also applies to the setting of caps with small caps.

Set the following examples, so as to get used to the aligning rail, etc.

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 *utan*, 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 heard. 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*.

Examples for Bold-Face Practice

A SUPERLATIVE ENGINEERING FEAT

Pre-eminently the Car of the Season

The Clarion is distinguished immediately from all other cars anywhere near its price by its sparkling, speedy performance. Only Clarion 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 Clarion’s great reputation among car owners.

On the road the Clarion 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 marvellous engine with the largest piston displacement in this price field—an engine that displays unrivalled mastery of performance in every expression of power and stamina and speed.

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

Most Complete at the Price

So many quality features does the Clarion embody that it has been called the most complete car ever offered in the moderate-price field. And although the Clarion 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 Clarion . . .** and know why **everyone everywhere** is saying "**A GREAT CAR.**"

Examples for Caps and Small Caps

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 that it will not cast italic. Where many small capitals are in a line, the capitals and points should be lowered *after* the line has been assembled.

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 those big 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?

GREAT BRITAIN, IRELAND, CANADA, SOUTH AFRICA, INDIA, CHINA AND JAPAN, INDONESIA, AUSTRALIA AND NEW ZEALAND, EGYPT, TURKEY, FRANCE, ALGERIA, BELGIUM, ITALY, SPAIN, PORTUGAL, SWITZERLAND, RUMANIA, HOLLAND, AUSTRIA, CZECHOSLOVAKIA, DENMARK, NORWAY, SWEDEN, FINLAND, SOUTH AMERICA, ISRAEL, PAKISTAN, POLAND.

EXERCISE 6—*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 student when setting this exercise will realize the importance of keeping his eyes on the copy. He should try to set as he reads, without looking at the keyboard.

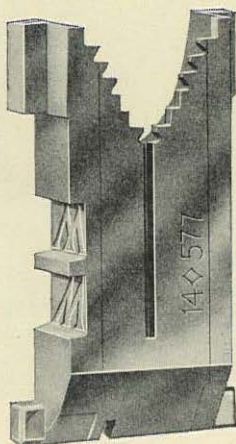
Practise each of the following lines five times, touching the space key with the fourth finger of the left hand at the end of each group of figures or characters corresponding to a word. Remember that accuracy is more important than speed.

23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 23 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)
 £246, £4,980, £18, £914, £1,001, £201, £743, £4,852, £5,731
 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
 378,992 378,992 378,992 378,992 378,992 378,992 378,992

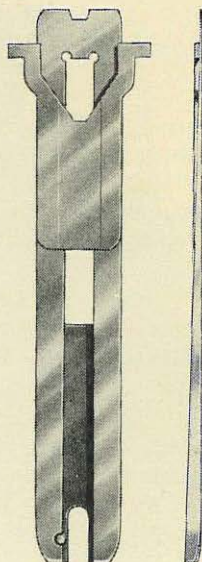
The following table is provided to give the beginner an example of tabular composition. Use spacebands only on the left-hand side of the leaders; thereafter use matrix spaces.

| Owner | Breed | Cow Years | Av. Milk | Av. Test | Av. Fat |
|-----------------------|---------------|--------------|-------------|-------------|------------|
| J. M. Koonce | Mixed... | 4.8 | 9872 | 4.17 | 412.18 |
| W. M. Duesler | G.&P.K.G... | 12.6 | 8261 | 4.97 | 411.21 |
| A. J. Peterson | G.G... | 5.7 | 9798 | 3.75 | 411.21 |
| C. H. Lanyhurst | G.G... | 6.8 | 7089 | 5.16 | 366.42 |
| C. H. Welch ... | G. & P.B.G... | 7.7 | 7305 | 4.98 | 364.42 |
| A. Dahlman | G.G... | 11.0 | 8151 | 4.37 | 356.82 |
| Newman & Son | G.G... | 7.6 | 7183 | 4.96 | 356.31 |

These are the Units the Student will assemble



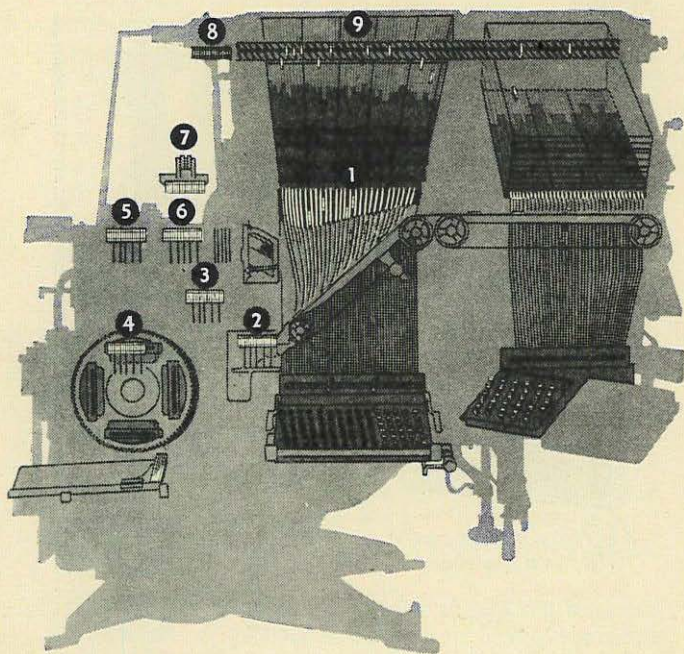
Above is a matrix; on the right is a spaceband.



DOUBLE-LETTER MATRIX.—Note that it bears two die characters, either of which can be used. A sufficient number of these matrices is arranged in the channels of a magazine to enable the operator to set lines continuously.

SPACEBAND.—A front and side view of a Linotype spaceband. These bands are assembled between the words. Each consists of two opposed wedges. When a line is being spaced, the long wedges are pressed upward so as to spread the matrix line to the pre-determined width.

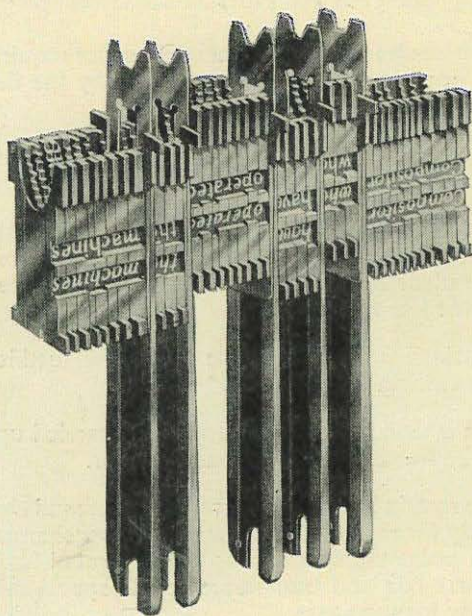
How Matrices and Spacebands circulate through the Linotype



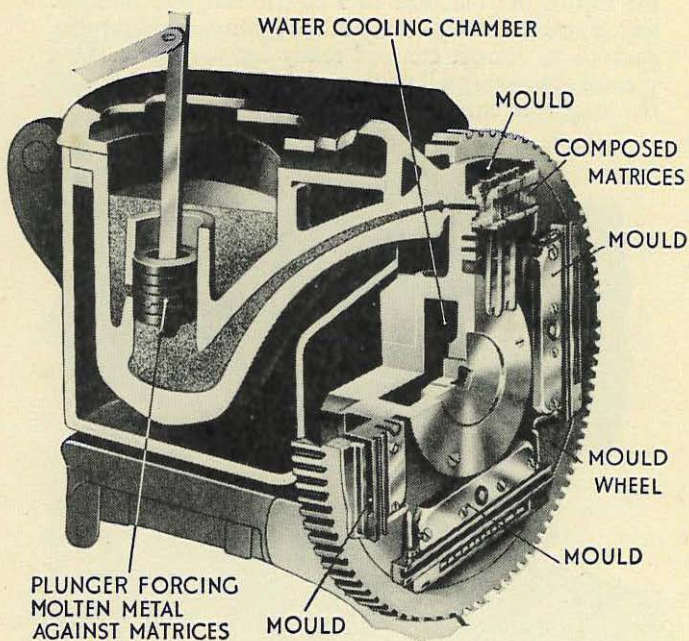
This diagram shows the path taken by the matrices as they circulate through the machine. It also shows the shorter path of the spacebands. Details of the sequence of stages are given on the next page.

KEY TO FACING ILLUSTRATION

1. Matrices leaving the magazine in order required by the operator, having been released by the depression of keybuttons.
2. Matrices and spacebands in process of assembling in line formation.
3. Completely assembled matrices being transferred to the first elevator, after being released from the assembler by the operator (who now proceeds to set the line to follow).
4. Matrix line in front of the mould for justification and casting.
5. The matrix line after casting being carried upward for its transfer to the second elevator.
6. The matrix line is transferred to the second elevator ready for raising to the distributing mechanism. At this point the spacebands are separated from the matrix line and transferred to the spaceband box ready for use again.
7. The matrix line (now free of spacebands) being lifted to the level of the distributor bar suspended over the magazine.
8. Matrices being separated into single units again so as to be engaged by rotating screws, which propel them along the distributor bar.
9. Matrices passing along the distributor bar until released by their combination of teeth, which causes them to fall into their original channels ready for re-assembling into new matrix lines.

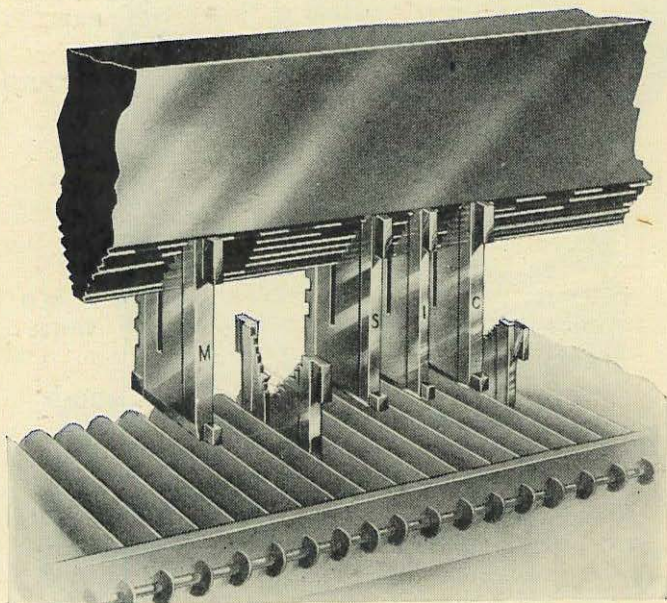


An assembled line of matrices and spacebands, justified (i.e. spaced out), and ready for casting. Note that two of the words are at a higher elevation than the others, so as to align the italic dies with the roman.



This is a sectional view of the line-casting mechanism. It shows a matrix line against the face of a mould, behind which is an electrically-heated pot of molten type metal (consisting of a mixture of lead, antimony, and tin). The machine can cast such lines at the rate of six to seven a minute.

After a matrix line has been cast, it is transferred to the top of the machine to a distributing mechanism, which automatically sorts out the matrices and returns each to its correct channel ready for use again. This picture shows a small section of the distributor bar and the magazine entrance.



Further Practical Advice to Linotype Students

Do not be satisfied by being a mere keyboard man. The mechanism of the machine forms an interesting study, and is not nearly so difficult to learn as it may at first sight appear to be.

A general knowledge of the machine is desirable, not so much in order to put it right as to avoid putting it wrong. As a matter of fact, the Linotype is practically foolproof, but a knowledge of the principles governing its operation and its mechanism will help the operator to take full advantage of its possibilities.

If there is any thought in the mind of the learner that his fingers will grow tired when operating, he will be safe in forgetting it; we have yet to meet the operator who complained of feeling tired for that reason.

Whatever the method of operating adopted, there is one piece of advice that is applicable to all: The keys should be depressed with a regularity that vies with that of a clock escapement movement. A golden rule for all beginners is, learn to go slowly and steadily.

The keyboard is so easily learned that the beginner is tempted to "rattle away" in the belief that he is setting a lot of type-matter. And so he is—for a time. But should he continue in this way he will not become a fast operator. The reason for this is that there are usually faults in the student's style of operating which have to be detected and eliminated.

Having learned a few combinations (that is, the sequence of finger movements in setting words or parts of words), the common tendency is to make these movements quickly because the learner is sure of his ground, but he usually stumbles over less familiar words, and, having created within himself an unhealthy spirit of abnormal haste, he is not in the frame of mind to learn further combinations. To sum up, he has not fully learned the relative position of one key to another—all there is to learn, by the way, so far as the keyboard is concerned.

In passing, it may be of interest to the learner to know that if he could maintain the rate of speed at which he sets the few combinations he knows he would find his output to be somewhere near eighteen or twenty thousand ens per hour! The thing that matters, however, is *average speed*, and he will soon produce a good average if he will recollect that a regular "tap-tap" produces a large quantity of type every hour, and finds him fresh and full of energy at the finish.

As part of his education he should watch an experienced operator at work. He will probably be surprised to see how slowly the keys are working compared with the operator's large average output of set matter. It is the persistent and regular motion of the fingers that is so deceptive.

The learner will then realize how easy it is to increase his output considerably on a Linotype machine by even a slight increase in the speed of finger movements. But those movements must be *regular*—once the learner has realized that he will know the whole secret of fast operating.

Although we have said that the machine is easily learned, we are far from suggesting that the knowledge can be obtained without effort. The man who is a failure at case will also be a failure as a Linotype operator. Inversely, the more efficient a man is as a case-hand, the better machine-hand will he make, especially if he also has mechanical aptitude. There is no room in the Linotype field for any other than earnest men.

The beginner whilst learning the keyboard should endeavour to form the habit of reading his copy and glancing at the assembler without stopping to do so. This habit is quickly formed in many cases, and is of material assistance in avoiding undue mental strain, and at the same time builds up a good average output.

The learner should also endeavour to depend as little as possible on the bell which warns the operator that a line is nearly completed. In precisely the same way as, when at case, he estimated the number of

words or letters necessary to complete a line before he was ready to set them, so the beginner on the Linotype should "cast off" the words or letters required in the assembler. In this way no time will be wasted towards the end of each line. (We assume that the learner already knows that he has not also to "cast off" the extra spacing required to complete a line: that justification spacing on the Linotype is quite automatic.)

Slugs should be examined by the beginner with a view to learning the appearance of set matter that is too hot or too cold. The good quality of his work should be jealously guarded by him at all times. It is as easy to produce good work as it is work of inferior quality; it is important, therefore, that he takes full advantage of the knowledge available to him when learning to become an operator. Nothing is unimportant.

There are a few more general hints we must give before turning to the mechanism of the Linotype. For example, do not permit an accumulation of matrices and spacebands to remain on the tray; put them into circulation again. Better still do not accumulate them at all. It is usually a sign of faulty operating when quantities of "sorts" are seen on the tray. Read the copy correctly and tap the right keys. The fingers should be over the keyboard, not in the assembler box.

When returning spacebands to the machine by hand, put the long wedge towards the metal-pot (that is, to the left of the machine). Matrices must be returned to the machine with their saw slots toward the left-hand side of the machine. Here again the position of the metal-pot is the best guide, because it applies whether the operator is at the front or the back of the machine. If the learner will recollect those two points he will save himself some trouble in his early days; later he will form the habit and will not go wrong.

If the new operator, having been on the machine for a few weeks, has produced four or five thousand ens in one hour, and feels inclined to lay back and reflect

upon "his great speed," he will be well advised if he quickly chooses one of two courses open to him: (1) To get back to case at the earliest moment in order not to waste further time, and give a better man a chance; or (2) to recollect that he set out to become a Linotype operator, and determine not to think further of his speed until such time as he justifies it.

No operator is a really fast man until he gets that feeling which tells him that "he would get tired if he went slow"—that is the common "grumble" of all speedy operators.

Now as regards the mechanism of the machine. If a beginner wishes to learn the mechanism quickly and thoroughly, he should not attempt to learn it all at once. He should study a portion at a time, and link up his knowledge as he goes along.

Commence with the keyboard and magazine escapement mechanisms. As these mechanisms are composed of a number of complete units identical with each other, the student has only to learn one of them in order to understand the whole.

The distributor and its associated parts will, to some extent, have become familiar to him whilst learning the keyboard. A little concentrated thought here will complete his education in this part of the machine.

The next item should be the driving clutch. This part is not so easy to grasp at first; it is a very interesting study, however, and if for that reason only the knowledge will be in the possession of the learner very quickly.

The cam shaft can be taken as a whole, but each cam should receive close study in order that the beginner may know its functions and the methods by which they are carried out. In learning this part of the machine, he will find that the whole of the mechanism is becoming an open book to him, and that he is nearly ready to place himself in line with those of his fellows he knows as "experts."

By this time the new operator will have learned to appreciate the value of keeping the machine clean—

clean not only as regards the parts that are seen at a casual glance, but also the inner parts of the machine. He will also have noted the advantages of having a clean metal-pot plunger and clean spacebands.

Jobbing hands who take up the Linotype as a means of earning their living find a new interest in their work by producing quickly and well the jobs they once set so slowly at case. There is the additional pleasure of handling a machine that is very profitable to all concerned and there is a satisfaction in this which makes men happier in their daily work.

SOME GENERAL ADVICE

The ambition of every Linotype learner should be to become an expert operator. With such an ambition no man will be content with simply getting up speed on the keyboard. He will take an interest in the machine, read all available literature on the subject, and will persist in acquiring knowledge that will fit him for successfully holding a situation in an office where there is not a mechanic in charge.

Of course, speed on the keyboard is necessary, but it can generally be taken for granted that a compositor who has made himself thoroughly acquainted with the machine has not neglected the keyboard. Experience proves that such men are almost invariably fast operators. Their chance of securing lucrative employment is much greater than that of their fellows who have devoted all their attention to the keyboard, for there are hundreds of small installations where it is essential that only such men should be employed.

The following advice to learners, if carefully followed, will prove to be of great value, and will do much to abolish the grumble too often indulged in by beginners: "My machine isn't going well." These hints apparently deal with trifles, but they are "little things that matter," and the learner who cares to read,

mark, learn, and inwardly digest the following will be the first to discover that his "machine is running well."

If you find it difficult to maintain your average output because of some supposed machine defect, tell your instructor at once. Don't wait until your output is complained about. Be fair to the machine and yourself.

Listen carefully to the sounds made by your machine. By this means the smart operator is instantly aware of the failure of a matrix to fall, a stoppage of the distributor, or the holding up of the plunger.

Should the machine stop before completing its revolution, push in the starting handle. Then think out what has caused the stoppage. Do not back or forward the machine with the driving clutch until you have found the cause of the stoppage and put it right.

See that the machine is kept clean, and that oil is not used on any part with which the matrices and spacebands come into contact. All the belting, too, must be kept free from oil.

Do not tamper with the machine, nor remove parts "because it works as well without them." The man who removes certain parts of the machine "because they are troublesome," usually makes no effort to learn for what particular purpose such parts are fitted, or, if he does know, refuses to take advantage of their usefulness because they incur some little extra trouble—this in spite of the fact that the devices make the machine much more profitable to both operator and employer. Here is a case in point: Two men were engaged in a chat on trade subjects, and subsequently the matter of their respective Linotype installations came up for discussion. "Of course," said one, "you have a slack line preventer fitted to your machine?" "One was fitted," replied the other, "but when I found that the operator had as many as thirty lines missing from one galley I had the part removed." "Ah," replied the first speaker, "you took off the

wrong part." "How's that?" said the other. "You should have removed the operator!" was the sound advice of the wise one.

No part of a Linotype is superfluous. If any part is not understood, do not hesitate to ask the instructor for the information required. The reply of a Persian philosopher, when asked by what method he had acquired so much knowledge, is well worth repeating here: "By not being prevented by shame from asking questions when I was ignorant."

Replace bolts, etc., which have worked loose and fallen to the floor. To say that the machine is working quite well without the replacement of a bolt may be true at the time; but the safety of the machine is more apparent than real. Generally speaking, the fact that a screw has become loose points to excessive strain at or about its seating (assuming, of course, that it was properly tightened in the first place), and, therefore, it is important that the screw should serve its full purpose in order that undue strain may not fall upon the remaining screws.

The learner will save himself unnecessary work and add considerably to his employer's profits if he will credit the manufacturers of the machine with having thoroughly tested each part of the complete mechanism in all stages of construction and having associated with the machine only such parts as are of proved utility. In these days of rapid progress in the mechanical world no man can know everything even in his own special field, and in that spirit should the student approach the machine.

Learn the machine thoroughly; do not be content with knowing that a matrix falls when a key is depressed. If a mechanic is in charge of the machine you are working, do not let that deter you from acquiring knowledge. You may, some time in the future, be looking for a job, when, if you know the machine, you will have a much better opportunity of obtaining and holding a situation than will the man who knows nothing beyond the lay of the keyboard.

Matrices and Spacebands

Do not allow matrices to accumulate on the tray. The absence of a few matrices from the machine may not affect your output as a learner, but later on you will appreciate the value of a full complement. So avoid what might become a bad habit.

If a matrix does not fall when a key is depressed, look for the cause of the trouble. A bent or burred matrix should have immediate attention.

Study the expansibility of your spacebands carefully. When you thoroughly understand what they are capable of doing you will save yourself a lot of time and trouble.

Learn to hang matrices on the second elevator with the middle finger and thumb of the right hand. A larger number of matrices can be dealt with in this way than any other—something to be considered when filling a magazine.

Do not handle the matrices more than is necessary. Moisture from the hand is detrimental to their movements in the magazine.

Rub a little graphite on your spacebands every morning (see page 42).

If a spaceband should get caught, tapping the key repeatedly will only aggravate the difficulty, because for every tap given, one spaceband will be added to those fixed in the slide.

Keyboard

For "doubles," practise setting such a word as "possess," depressing the key for sufficient time to release two matrices where required. It is quite possible to depress a key twice in rapid succession, and yet only release one matrix.

Do not let any oil get on the rubber rollers—oil rots rubber.

Keys should not be depressed when the machine is not running, unless the keyboard is locked. For every key so depressed one matrix will be released when the

power is applied, and if many keys have been so operated the undue strain on the rubber sleeves may make them loose on their shafts.

If any character is slow in falling whilst others are working satisfactorily, it is likely that the eccentric cam concerned is not working freely. Remove the cam carriage, clean thoroughly, and insert a small drop of oil on the bearing of the eccentric cam.

If you have trouble with the release of the "e," first lift by hand the rod which works the escapement pawl links, and if by so doing the matrix falls freely from the magazine, the probability is that the rubber roller on the back shaft has moved laterally. This also applies to the "t," on the front roller. A little seccotine, or similar cement, placed on the shaft will hold the rubber in position.

Cultivate a uniform touch. A jerky movement is frequently responsible for transpositions.

Avoid tapping the spaceband key simultaneously with the last letter of a word. This is a common fault with beginners.

Practise setting a sequence of small words without looking at the keyboard. The habit is well worth cultivating, for when you can read and operate at the same time your output will rapidly increase.

Do not attempt to evade a little hand-spacing by making a bad division. Study punctuation. A good compositor generally makes a good operator, and a good operator is just as particular about punctuation and divisions as he was when setting from case.

Assembler

Any correction in the assembler box should be made with the left hand.

Glance at the assembled line to see that it is level before passing it to the first elevator. A raised spaceband or matrix will prevent perfect delivery.

Do not attempt any big correction in the assembler box, such as lifting out or inserting several words.

It is much quicker to send away the line as "pie," and reset.

When you have to insert thin spaces by hand, be sure to put them on the right-hand side of the spacebands; otherwise there is always the possibility of getting a thin space fixed between the two parts of a spaceband.

Learn not to rely on the bell which warns the operator that the assembling of a line is approaching completion. You will occasionally find that you have started a word which you cannot divide, and which you must lift out. Glance frequently at the assembling line and you will soon be independent of the bell.

If you have over-filled the line and caused the star-wheel to stop, it is necessary to turn back the wheel to relieve the pressure. To do this, turn the pulley—leave the belt alone.

If for any reason the line does not leave the assembler box when raised, do not try to force back the carriage to the starting point when the box is at the top, or you will bend the pin which releases the delivery carriage. A bent pin will probably account for that stiffness you may sometimes have noticed when the box is nearing the top.

For setting the measure in the assembler, take a slug of the measure required and hold it between the matrix stop on the assembler slide and one of the points of the star-wheel; then push the finger-screw along the slide until it presses against the block, and fasten. If the measure is made up in this way there will be no guessing whether the line is tight or not, for if the star-wheel stops the line is over-full. Of course, the star-wheel wears, but the difference will not be noticeable for several weeks.

Be careful when oiling the assembler. If it is not working freely, do not pour a lot of oil into it. A few minutes spent in removing and cleaning it will repay for the trouble taken to do the job properly. If oil be too freely used, it quickly finds its way to the star-wheel, thence to the matrices, and finally to the magazine, where it causes considerable trouble.

Elevators

If the control handle is in the "off" position when the line reaches the first elevator, do not *pull* it out. *Ease* it gently. It is only necessary to *pull* the handle when repeating a line or casting a blank.

Avoid "riding" the left hand on the first elevator. It is a common habit and a bad one. Keep both hands busy at the keyboard.

Do not send away a tight line. Even if you are successful in forcing it into the vice-jaws the result will be a slight overlap and bad alignment.

A line of matrices and spacebands should enter the first elevator without any hesitation and without a scraping sound. If it does not do so it is because the elevator top and delivery channel are not in alignment. This can be easily rectified by turning the justification tube at the bottom of the first elevator. Be careful not to injure the small spring which holds the tube in position. This adjustment must not be confused with that mentioned in the next paragraph.

If the line is not transferred freely to the second elevator, do not hold back the spaceband grabber and then suddenly let it go. You may in that way force the line to transfer, but you are injuring the teeth of the matrices. Examine the screw on the bottom of the first elevator long slide, and you will probably find that a little metal or dirt is resting there. This screw is so adjusted that when it beds against the lower of the two strips to which the first elevator guides are attached, the first elevator top is in alignment with the ribbed bar on the second elevator. This adjustment must be perfect, so it is advisable to see that the parts mentioned are kept clean.

If the second elevator does not fall into position to receive the line from the first elevator, do not pull out the handle, or the result will most likely be a breakage. In the first place the spaceband-grabber must be secured, then go behind the machine and release the second elevator (which is probably being held by matrices in the lift box because the distributor has

stopped), and let it down to its proper position. Then return to the front, release the spaceband-grabber, and allow the line to be gently transferred to the second elevator. The machine will then strike on automatically. Apart from the fact that by pulling on the handle you are inviting a smash, a moment's consideration will show you how foolish it is to expect that by so doing the matrices will reach the magazine, seeing that the second elevator is not available to carry them there.

Vice

See that the starting handle is in before taking down the vice.

If the machine is fitted with a hand-wheel on the vice-screw bracket one turn alters the measure in the vice-jaws a pica en.

Mould Wheel

If you have occasion to turn the mould wheel by hand, always turn it anti-clockwise. The back knife will then remove any metal which might be adhering to or projecting from the mould, whereas, if turned to the right, such metal may become fixed between the wheel and the knife, and so upset their adjustment.

The mould wheel driving pinion is one-fourth the size of the mould wheel. Therefore, to turn the mould wheel from ejecting to casting position, the pinion must be completely turned clockwise once, or from casting to ejecting position turned three times.

Metal-Pot and Plunger

When putting metal into the pot be sure that the ingot is in contact with the molten metal before releasing it. This little precaution will save you many small burns on your hands.

Do not stop the machine with the plunger down. If it is left long in this position the metal solidifies in the mouthpiece, the result being that some time must

elapse before molten metal can again pass through the holes with sufficient freedom to ensure a good solid slug. If it is necessary to stop the machine in this position, first disconnect the plunger.

Remove the plunger once a day and brush it well. If you keep it out too long it will get cold, and then, when you attempt to replace it, the metal will at once adhere and prevent it going into the well. In such a case, let the plunger remain in the metal *outside* the well until it has reached the proper temperature, when it can be easily replaced. Do not press it down too quickly, or you will force some metal through the holes in the mouthpiece, which metal will probably remain behind the mould wheel and cause a "splash" when the next line is cast.

Do not let the metal get low in the pot. Feed the pot regularly.

If you are in charge of a machine, insist upon being supplied with clean ingots. The use of dirty slugs causes trouble with the plunger and mouthpiece, and such metal soon deteriorates.

Pump-Stopping Lever

The pump-stopping lever (short-line preventer) is, as its name suggests, a device which prevents the plunger from pumping metal into a loose line. Lateral pressure is applied to this lever when the line is justified by the action of the wedge spacebands, but if the line is short the spacebands will not supply the necessary pressure to allow the plunger to act. Any operator who holds this lever over by hand is deliberately ruining matrices and spacebands, and must be regarded and treated as a nuisance.

Distributor

When, owing to a stoppage of the distributor, it is necessary to open the magazine entrance, do so smartly, so as to prevent any matrix from slipping down the magazine on its side. If one should so slip

it must be removed at once. On modern machines grids are inserted in the magazine to prevent matrices in this position getting beyond reach of the fingers.

If you have trouble with distributor stoppages, examine the magazine entrance partitions, and straighten any which may be bent.

Do not force a matrix through the distributor box. A small tongue piece on the end of the ribbed bar in this box fits into the slot on the side of each matrix as it is lifted, and serves the double purpose of ensuring that the matrices are lifted singly and preventing one that is reversed from passing to the distributor bar. If a matrix should stop at this point, it must be pushed back to the second elevator and removed.

Magazine

Every month or so, according to local conditions, empty the magazine and brush out the channels with the brush provided for the purpose. Do not put graphite in the magazine. It may make the matrices run freely for a while, but in damp weather the channels will become gummy.

SIMPLE LINOTYPE DEFINITIONS

The *matrices* are small pieces of brass, on which the characters or dies are stamped.

The *spacebands* are double wedges, used between words of a line, to justify or spread the line to the required width. In an assembled line they project below the matrices.

Keyboard cams connect with the *keyrods*, *strikers*, *etc.*, which release the matrices and the spacebands. A cam makes one complete revolution every time a key-button is depressed.

The *assembler elevator* receives the matrices from the magazine and raises the line of matrices and spacebands to the line delivery channel.

The *line delivery channel* is the part through which the assembled line of matrices and spacebands passes from assembler to first elevator.

The *intermediate channel* is the part in which transfer of the matrices and spacebands from first elevator to second elevator takes place.

The *vice frame* carries the first elevator. It unlocks and is lowered to give access to the mould, etc.

The *vice jaws* are situated on the head of the vice frame, and are the parts in which the assembled line of matrices and spacebands is justified.

The *mould* is the part in which the slug is cast.

Liners are part of the mould, and regulate the length and thickness of the slug.

The *mould wheel* contains the series of moulds.

The *metal pot* contains the molten metal, which is pumped through the throat of the metal pot into the mould in use, thereby casting the slug.

The *plunger* in the well of the metal pot pumps the metal from the pot into the mould.

The *well* of the metal pot contains the metal before it is pumped into the mould.

The *metal pot mouthpiece* is the part through which the metal flows from the throat of the metal pot into the mould.

The *first elevator* receives the matrices and spacebands from the line-delivery channel and carries them down to the casting position, and after the line is cast raises them to the first transfer position.

The *second elevator* is the arm which raises the matrices from the first elevator to the distributor box.

The *justification tube* connects the first elevator lever to the first elevator. It contains a compression spring which allows the lower lugs of the matrices to align easily in the grooves of the mould. It is also used to raise or lower the first elevator a trifle to regulate transfer of matrices between the line delivery channel and the first elevator.

The *matrix and spaceband shifter carriage* (first matrix pusher) is that part of the machine which pushes the line of matrices and spacebands from the first elevator head to the second elevator and intermediate channel.

The *distributor shifter carriage* (second matrix pusher) transfers the matrices from the second elevator to the lift box.

In the *distributor box* matrices are separated and lifted one by one to the distributor screws.

The *magazine* is the part of the machine which contains the matrices.

The *magazine entrance* is the part through which the matrices pass after leaving the distributor bar, and thence into the magazine.

The *distributor* screws carry the matrices along the *distributor bar* until the proper channel is reached, when the matrices drop by gravity into the magazine.

The *magazine pawls* directly control the release of the matrices from their channels.

The *escapement pawl links* make the connection between the rods and the magazine pawls and impart the rocking motion to the pawls.

The *back knife* trims the bottom of the slug to make it type high.

The *ejector blade* pushes the slug from the mould, through the knives, and into the galley.

The *trimming knives* trim the slug on both sides to its proper thickness as it is ejected from the mould.

The *knife wiper* removes shavings from the knives after the slug is trimmed.

The *galley* receives the slug after it is ejected from the mould.

The *sorts channel* receives matrices which are not combined to run in the magazine (technically expressed "do not run keyboard"), such as special characters, borders, etc.

The *sorts stacker* assembles the matrices on a holder after they pass through the sorts channel.

THE CARE OF MATRICES AND SPACEBANDS

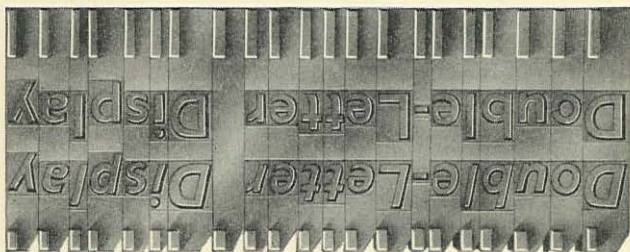
Matrices should never be washed with benzine or any similar liquid; particularly avoid any liquid solvent containing chromic acid, for even a weak solution will pit the character and destroy the side walls.

The only parts of matrices that need the operator's attention are the lugs. If oil or dirt gets on the lugs, they should be wiped dry and a very small amount of graphite rubbed thereon. The best way to do that is to rub the matrices on a soft pine board that is smooth and flat; lay each matrix lug side down on the board and give it two or three rubs as illustrated by the first picture on the next page. Then hold the matrix with the thumb and finger (as shown in the second picture) and rub clean the outside edges of the lugs on both sides.

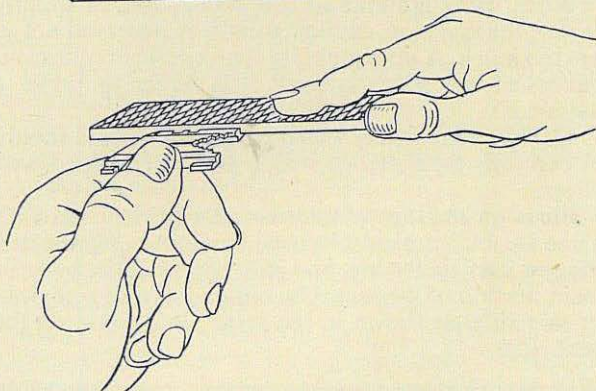
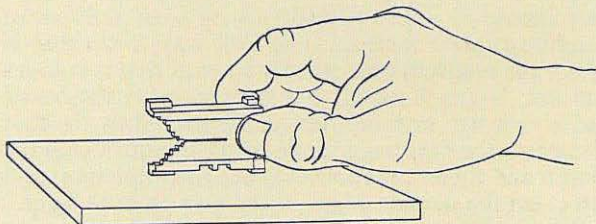
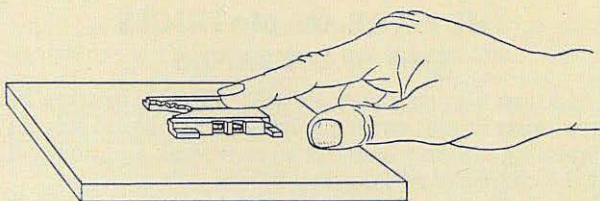
When using graphite in this connection, or on any part of the machine, caution should be observed not to use too much. A little graphite is an excellent lubricant, but when too much is used it is likely to prove a nuisance.

The lugs of matrices which have become bent should be carefully straightened with a pair of smooth-jawed pliers.

Burrs on the lugs of matrices can be removed with a fine file, but care must be used to remove only the raw edge or burr on the lug, and to avoid filing the body or main portion of the lugs. Use only a file with a smooth or safe side, as shown in the lower illustration on the next page.

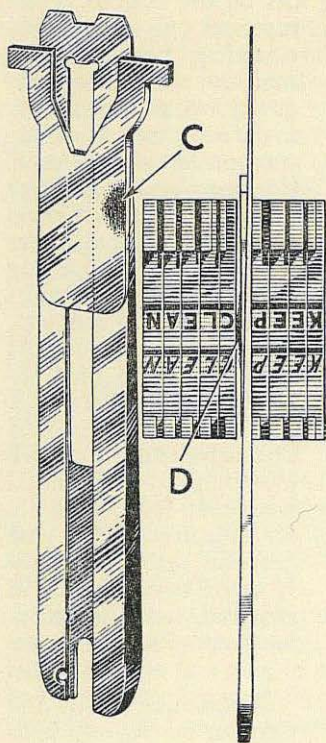


A line of 24-point Double-Letter Matrices



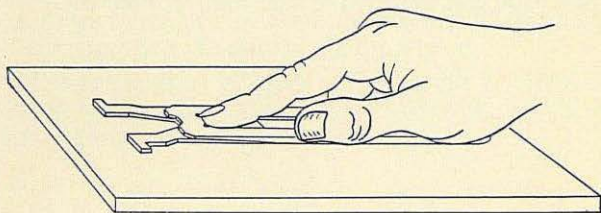
The first two illustrations show the correct method of holding a matrix when rubbing it on a graphited soft pine board. The lower picture shows how a safe-edge file is used to remove burrs from the lugs of a matrix.

It is of great importance that spacebands be kept free from an accumulation of metal at the casting point, and this will be avoided if the spacebands are cleaned in the following manner.



Place a small quantity of graphite on a smooth board, and rub each spaceband up and down lengthwise so as to burnish it (see diagram below). Avoid a sideways motion, as that would wear off the sharp edges, which are essential for a close lock-up between the spacebands and matrices.

Where spacebands have been neglected, and metal is adhering to the short wedge, remove the metal with a piece of brass rule before rubbing the spacebands on the graphite board. *On no account clean the spacebands with emery or other abrasives.*

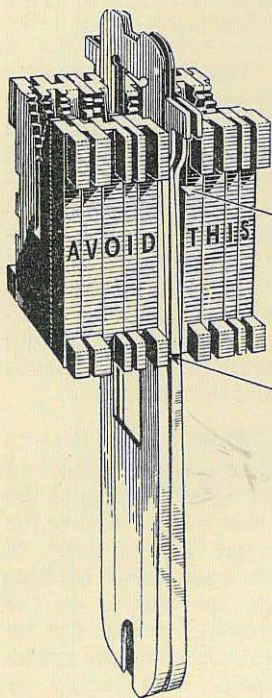


Why Two Spacebands should not be used together

Never use two spacebands together. When so used they form a wedge which acts on the bottom of the

matrices only, leaving an opening between the matrices and spacebands at the top, as shown at A in the accompanying illustration. Metal will enter this opening and produce fins on the slugs. Unless the line is set full, there will also be an opening between the spacebands at the point B. When justification takes place, the spacebands are bent inwards to fill this crevice.

The result will be crooked spacebands and the loosening of the small wedge. If the line is not set full, fins will be cast between the spacebands. If extra word spacing is required, use one spaceband and a matrix space.



Reference C in the drawing on page 43 indicates where metal adheres on dirty spacebands, and D shows how a neglected spaceband can destroy the side walls of matrices.

HOW TO SET DOUBLE-MEASURE MATTER

When setting matter requiring two or more slugs to complete a line, the operator should see that the vice jaws are so set that the characters at the ends of the slug are flush with its body lengthwise. The complete line can then be set in precisely the same way as that employed in setting ordinary single-slug matter, with this exception, that the units of the line are "sent away" and cast independently of each other.

For example, if an article is to be set 40 ems wide, each line would be made up of two 20-em slugs. In setting the article, the operator would send away the first portion of the line when the assembler was approximately full, even though the last word was only partly composed. In the latter case, the word would be completed in the beginning of the second slug, and the latter finished in the usual way.

There is no difficulty whatever in producing such matter, and no special knowledge is required. Any operator having set a few lines will feel quite at ease in producing a job requiring two or more slugs to complete each line.

Cases have been known where "operators," in setting double-measure matter, have put an en quad at the end of the first slug of each complete line. Others have attempted something better, by alternating the position of the en quad down the centre of the matter—putting it at the end of the first slug in one line and the beginning of the second slug in the second line. Both methods are entirely wrong, and are mentioned here merely to illustrate what the learner should avoid. Never start or end a line with a spaceband.

Large quantities of work are set on the Linotype in this way every day. There is no limit to the length of line where Linotypes are employed.

CONCLUDING ADVICE TO NEW OPERATORS

When an operator has attained some speed at his keyboard, it does not necessarily follow that he can maintain it over an extended period. Probably that represents the difference between the operator pure and simple and the "expert."

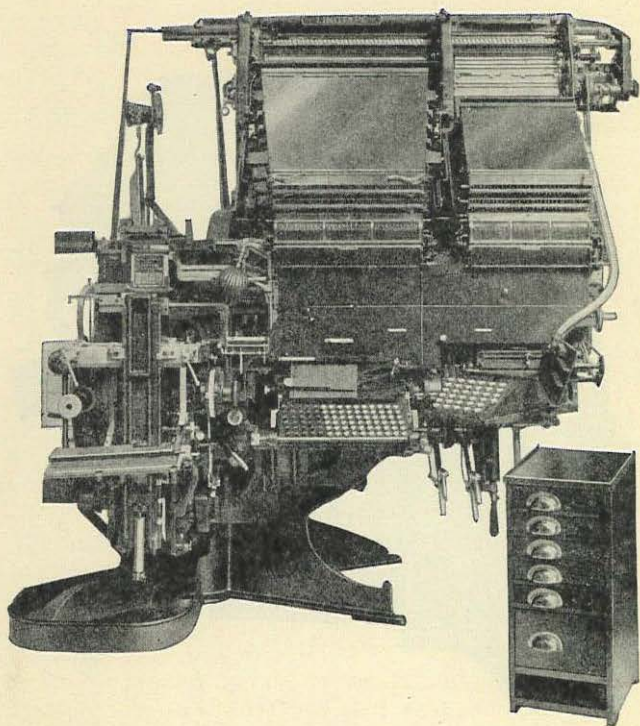
Take, for example, two men who have been at the machine for an even period—both working under similar conditions and both working "fairly"—one producing 8,000 ens per hour and the other 4,000. Which, at the end of a day's work, is the more exhausted? Usually the latter, for it will generally be found that the 8,000 man (proved, indeed, by the fact that he does average that speed) has learned the advantage of correct keyboard fingering and is thus able to conserve his energy.

It will often be noticed that the 4,000 man is working hard to produce his small output. On the other hand, the 8,000 man generally could, if necessary, increase his output without undue exertion.

What is it that causes such a disparity in output? Other things being equal, the fault is traceable to either of two sources: (1) The bad style of fingering adopted; or (2) failure to recognize the possibilities of an already acquired good style.

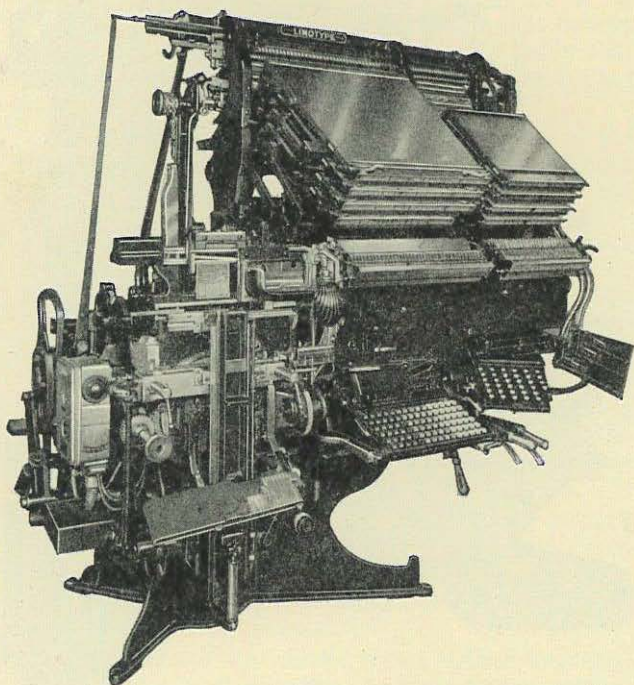
If the operator has learned a bad style of fingering, his case is almost hopeless, because a man seldom alters his style even when convinced of the narrowness of its scope.

Should the 4,000 man, however, have learned a good style, it will generally be found that the full value of the style has not appealed to him. But it is along these lines that development must be looked for: he should systematize his style. If this man will examine his system of fingering he will find that he is making numerous false movements, which are not only unproductive, but also spoil that regular, smooth action necessary for speedy work.



MODEL 50 S.M. LINOTYPE

A double-distributor machine, equipped with four main and four side magazines. Matrices can be mixed from any adjacent pair of main magazines and either pair of side magazines.



SUPER-RANGE LINOTYPE

Similar to Model 50 S.M., but can be equipped with extra wide main magazines for keyboard setting of upper and lower-case founts up to 36-point as well as 42 and 48-point caps.

