

(No Model.)

J. S. CAMPBELL.
PHONOGRAPHIC NOTATION.

No. 395,120.

Patented Dec. 25, 1888.

<i>Fig. 1.</i>	~rm	<i>Fig. 8.</i>	2
<i>Fig. 2.</i>	-l	<i>Fig. 9.</i>	3
<i>Fig. 3.</i>	~t	<i>Fig. 10.</i>	4
<i>Fig. 4.</i>	c	<i>Fig. 11.</i>	5
<i>Fig. 5.</i>	\$	<i>Fig. 12.</i>	6
<i>Fig. 6.</i>	<u>b</u>	<i>Fig. 13.</i>	7
<i>Fig. 7.</i>	~d	<i>Fig. 14.</i>	8
		<i>Fig. 15.</i>	9

Fig. 16.

~T~b~r~n~t~t~b~3t~z~e~q~s~c~n
 ~W~h~3~r~t~z~n~b~l~r~i~n~e~m~n~d~t~s~f~r
 ~e~s~l~\$~z~a~a~r~z~v~t~r~j~s~f~r~c~n
 ~r~t~t~k~r~m~z~g~n~7~a~s~v~t~r~b~l~z
 ~a~b~p~o~z~\$~n~d~3~m~?~t~d~t~s~l~p.

Attest.

C. D. Kerr.

C. L. Kerr.

Inventor.

John D. Campbell.

By Kell H. H. H. H.
Atty.

UNITED STATES PATENT OFFICE.

JOHN S. CAMPBELL, OF CINCINNATI, OHIO.

PHONOGRAPHIC NOTATION.

SPECIFICATION forming part of Letters Patent No. 395,120, dated December 25, 1888.

Application filed January 8, 1887. Serial No. 223,762. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. CAMPBELL, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Phonographic Notation, of which the following is a specification.

My invention relates to the art of writing or printing language, its primary object being to provide a system of notation adapted for use upon the ordinary "type-writers" by which spoken words and sentences may be printed in abbreviated form, thereby facilitating the recording of speech directly in and by the use of such type-writers in lieu of employing ordinary systems of phonography by hand-writing.

The general object of my invention is therefore to provide a system of recording language in the use of the type-writers which shall lessen the labor of the operator, but which shall enable the operator to record speech directly from dictation at the ordinary speed of vocal delivery.

To this end my invention consists in a system of abbreviation in which the letters, signs, and characters ordinarily placed, or which may be provided on type-writing machines, are employed with certain additional powers or functions and in a new relation, whereby language may be recorded in the ordinary printed characters, but in abbreviated form.

In order to describe and explain the system most conveniently with a view to its adaptation to the existing conditions and functions of the ordinary type-writer mechanism, I append to this specification, in the form of a drawing, certain illustrations or "figures" numerically designated, of the principal marks, positions, letters, numerals, and signs employed in carrying out the system of notation, together with a brief extract from the well-known "soliloquy" from Shakespeare's play of "Hamlet," as produced upon the type-writer by my system.

The numerically-designated figures of the drawing will be used as a means of reference and illustration in the course of the following description, it being impracticable without much useless repetition to describe in the ordinary "brief" the contents of the drawing separately as a whole.

In carrying out my invention as practically

adapted to and used in the operations of type-writing I classify the vowel and diphthong sounds of the English language into three "positions," representing sound-values, and employ three characteristic signs or marks in connection with the essential letter or letters of a word or syllable to indicate the position or characteristic vowel or diphthong sound heard in pronouncing such word or syllable, according to a predetermined system of classification of such sounds. For present purposes I have adopted substantially the system of classification commonly used in phonography, as follows: First position sound: a in "arm;" a in "at;" o in "lost;" o in "on;" au in "aught;" oi or oy as in "boil" or "boy;" ou in "plough;" i in "pike." Second position sounds: a in "ate;" e in "met;" o in "note;" u in "up." Third position sounds: e in "feet;" i in "pin;" oo in "food;" u in "put;" eu in "feud;" ieu in "view." The marks or signs indicating these positions I term "indicators," and by form and position relative to the letters of the word or syllable they denote the vowel or diphthong sound to be given in connection with such letters (as based upon the classification described) according to the context. Thus, the character \frown (that is, the parenthesis mark used horizontally convex downward) placed before and opposite the upper limit of the letter or letters, as shown in Figure 1 of the drawings, as an indicator of the "first position," and denotes that the accented vowel or diphthong heard in the word or in connection with the letter, sign, figure, mark, or character to which it is prefixed is a vowel or diphthong sound of the first position. For example, \frown rm (arm,) \frown t (aught,) \frown mt (mat.) The character $-$ (that is, the short dash) placed before and opposite the middle limit of the letters or letter, as shown in Fig. 2 of the drawings, is an indicator of the "second position," and denotes that the accented vowel or diphthong heard in the word or in connection with the letter, sign, figure, mark, or character to which it is prefixed is a vowel or diphthong sound of the second position. For example, $-$ l (ale,) $-$ nt (note.) The character \smile (that is, the parenthesis mark used horizontally, convex upward) placed before and opposite the lower limit of the letters or letter, as shown in Fig. 3 of the

drawings, is an indicator of the "third position," and denotes that the accented vowel or diphthong heard in the word or syllable or in connection with the sign, figure, mark, or character to which it is prefixed is a vowel or diphthong sound of the third position. For example, ea in "eat;" oo in "food;" i in "pin;" oo in "foot;" iew in "view" as, for example, (ft (feet,) (fd (feed or feud.)

The use of the indicators, as above explained, while it constitutes one of the important features of my invention would be incomplete as a system without the addition of certain other features, which I will proceed to explain. The first of these consists in employing, in connection with the indicators, certain letters, figures, signs, and characters which have no power of their own to express sounds in a distinctive relation in which an arbitrary function of sound expression may be given them—to wit:

First. C, as illustrated in Fig. 4 of the drawings, to which is assigned the sound and power of ch, as in "check," or tch, as in "match," and which may be named "chay."

Second. \$, (the "dollar" sign,) illustrated in Fig. 5 of the drawings, to which is assigned the sound and power of the letter n, as heard in "ink," or ng, as heard in "spring," and which may be called "ing."

Third. , (the underscore,) illustrated in Fig. 6 of the drawings, to which is assigned the sound and power of "con," "cum," "com," "cor," or "cog," as the context may require, and may be used alone or placed under another letter or character. In the latter case it prefixes its characteristic sound to that of the character under which it is written.

Fourth. (the first position indicator) illustrated in Fig. 7 of the drawings, prefixed to any one of the indicators proper, or when terminating a word (indicated by the ordinary spacing left after it) shall have the force of "to, too, or two." For example, d = to die or to add; - d = to-day; t = into.

A third feature of the complete system consists in employing certain figures (numerals or digits) in connection with the indicators, for the expression of certain sounds arbitrarily assigned. Thus:

The numeral 2, illustrated in Fig. 8 of the drawings, has the sound and power of th, as in "think."

The numeral 3, illustrated in Fig. 9 of the drawings, has the "hard" sound of th, as in "breathe," "thou."

The numeral 4, illustrated in Fig. 10 of the drawings, has the sound and power of s, as in "sure," or sh, as in "shun."

The numeral 5, illustrated in Fig. 11 of the drawings, has the sound and power of z, as in "azure," or s hard, as in "vision."

The numeral 6, illustrated in Fig. 12 of the drawings, has the sound and power of ter, tr, or thr, and der or dr, as in "truth," "through," "drake."

The numeral 7, illustrated in Fig. 13 of the drawings, has the sound and power of st, sd, or zt, zd, as in "strength," &c.

The numeral 8, illustrated in Fig. 14 of the drawings, has the sound and power of s or z combined with tr or dr, as str in "street."

The numeral 9, illustrated in Fig. 15 of the drawings, has the sound and power of shun, (tion, sion,) as in "motion," "mansion," &c.

In the use of numerals for arbitrary-sound expression, it should be also explained that when the numerals stand alone or in isolated groups, or standing at least one letter-space from the margin, they represent simply their numerical power; but when used adjacent to other letters or indicating-marks they have the phonographic power and function before explained. Likewise all the letters of the alphabet have their proper names and sounds, except as before explained, with the exception that g always has the "hard" sound, and with the further exception that the letter a, written with the indicator of the first position, thus: a shall be read as "an" or "and," while the letter e, written with the indicator of the third position, thus: e shall be read as "the" or "thee."

It will be observed that in the arrangement of the foregoing system I have selected as indicating marks and characters those which already exist in type-writing machines for the ordinary purpose of notation, and it will be found in applying the system that the additional functions and values assigned to certain of them are such as to avoid any confusion or uncertainty in the application of these additional functions and values. The additional object in view is to avoid the necessity of increasing the number of keys and characters used in the ordinary type-writers in order that the system may be conveniently engrafted, both in its mental and mechanical aspects, upon the ordinary type-writer operations.

By way of illustrating, the "mode of operation" of my improved system I have given as Fig. 16 of the drawings an illustration of an extract from "Hamlet's Soliloquy," taken from Shakespeare's play of "Hamlet." A detailed explanation would be prolix and unnecessary.

Full text: To be, or not to be, that is the question.
 Abbreviation: T b, r nt t b, 3t z e -qson.
 Abbreviation: T b, r nt t b, 3t z e -qson. 120

Full text: Whether 'tis nobler in the mind, to suffer
 Abbreviation: -Hw3 'tz -nblr n e mnd t -sfr
 Abbreviation: -Hw3 'tz -nblr n e mnd t -sfr

Full text: The slings and arrows of outrageous fortune,
 Abbreviation: e sl\$z a rz v trjs fren, fren, 125
 Abbreviation: e sl\$z a rz v trjs fren,

Full text: Or to take arms against a sea of troubles,
 Abbreviation: r t -tk rmz -gnz -a s v -trblz,
 Abbreviation: r t -tk rmz -gnz -a s v -trblz,

Full text: And, by opposing end them? to die, to sleep.
 Abbreviation: A, b -pz\$ -nd -3m? t d, t slp. 130
 Abbreviation: A, b -pz\$ -nd -3m? t d, t slp.

Suffice it to say that in addition to the drawings, Fig. 16, there is given above, first, the

full line as ordinarily printed; second, the sound abbreviations beneath each word or syllable without reference to spacing; third, the abbreviation correctly written according to the system hereinbefore set forth.

In line 3 of each group it will be observed that the indicators are used in the spaces ordinarily occurring between words, and this I regard as an important feature of the system in its application to type-writing, inasmuch as in type-writing the spacing requires a distinct act of striking the spacing-key, which is thus saved. The indicators, when used as such, always denote the beginning of a word as written, and no uncertainty or confusion can arise.

I claim as my invention and desire to secure by Letters of the United States—

1. The improvement in the art of recording speech by type-writing, consisting of abbreviating words and syllables by printing first a prefix-mark designating the class or group to which the leading vowel sound of the word or syllable is assigned, and following said mark with the leading consonantal letters of such word or syllable in ordinary close succession from left to right.

2. The improvement in the art of recording speech by type-writing, consisting in prefixing in the ordinary spacing between words an arbitrary mark, indicating by form or position, or both, the leading vowel sound heard in connection with the consonantal letters immediately following to constitute a word or syllable.

3. The system or method of abbreviating printed speech, consisting, essentially, in writing or printing the consonantal skeleton of a word or syllable in ordinary line succession from left to right, prefixed by an arbitrary mark, indicating the general character of the vowel sound of said word or syllable, said mark occupying the ordinary spacing between words, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN S. CAMPBELL.

Witnesses:

L. M. HOSEA,
C. D. KERR.