

















2 Sheets—Sheet 1.

Patented March 8, 1881.

Colors

<i>I</i>	<i>a'</i> 	<i>b'</i> 	<i>c'</i> 	<i>d'</i> 
<i>J</i>	<i>f</i> 	<i>g</i> 	<i>h</i> 	<i>j</i> 
<i>M</i>	<i>H</i> 	<i>G</i> 	<i>P</i> 	<i>L</i> 
<i>H</i>	<i>h</i> 	<i>z</i> 	<i>m</i> 	<i>n</i> 
<i>L</i>	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>

Journal Scute

Y
O
I
E
A

2 H G F I ha ga pa la ha ge pu le hi gi pi li tu go pa la tu ge pu lu go py

3 A B C D E F G H I J K L O M N P Q R S Y T V W X Z

4

5 tu g pa i ha ga pa la tu ge pu le hi gi pi li tu go pa la tu ge pu lu go py

6 a b c d e f g h i j k l o m n p q r s y t v w x z

7

8

9 gibapi pipapahapi pule, ghagau the lububudo gibapi ghia

10 man never is, bit always to be

11

12

13 g l h d l d h a h, gibapi chita lipohapi p u h i l e h a h pipapahapi l h i

14 h l e i a a z man die p r i n c i p i l e s never to

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No. 238,566.

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Green = 
Yellow = 

Fig. 4.

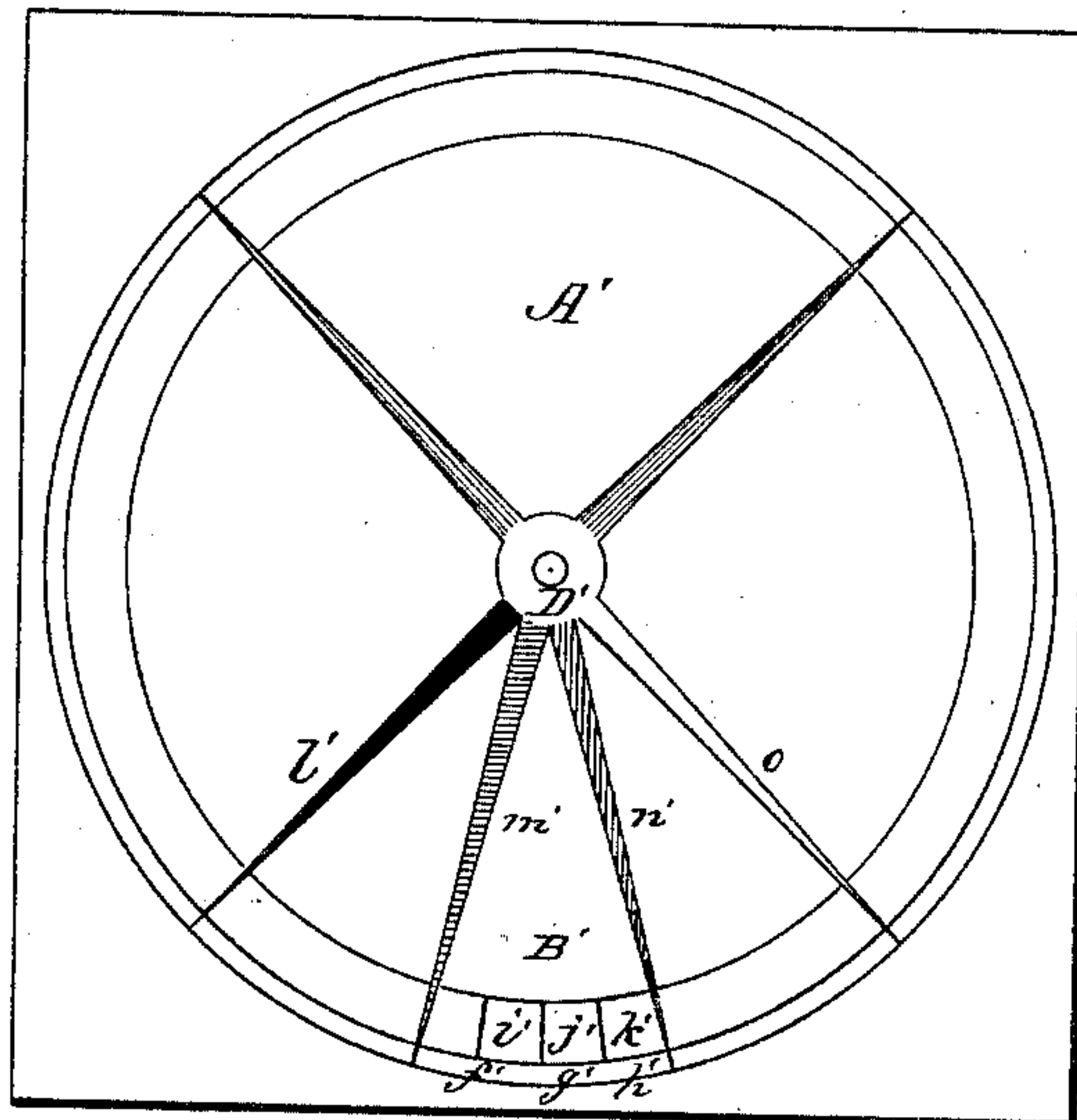
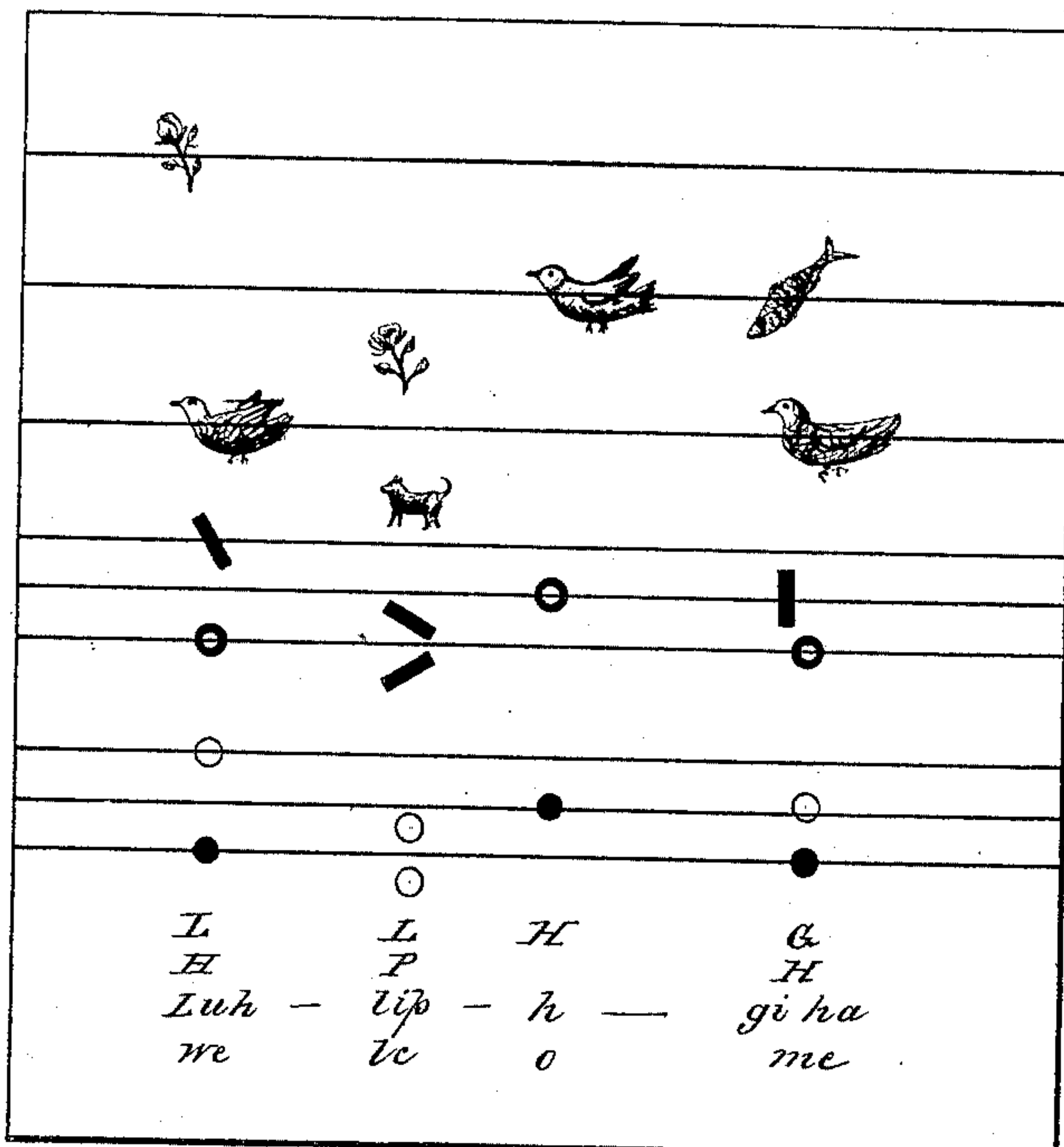


Fig. 5.



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SPECIFICATION forming part of Letters Patent No. 238,566, dated March 8, 1881.

Application filed November 18, 1879

To all whom it may concern:

Be it known that I, CHARLES G. BURKE, of the city, county, and State of New York, have invented a new and Improved Alphabet and System of Writing in Cipher, of which the following is a full, clear, and exact description.

My invention consists in the use of four characters, differing in form or color, which, when used in combination with a scale consisting of three horizontal parallel equidistant lines and spaces, represent intelligible sounds, which are convertible into words and sentences, and may be substituted for and made the equivalent of the English language.

The object of my invention is to simplify and facilitate the conveyance or expression of intelligence in all manners otherwise than by word of mouth.

The characters used in my system may be of any four different forms or colors, or may be represented by any four different articles, expressions, sounds, or other means of conveying an intelligible difference; but the simplest and most readily comprehended characters are to be preferred. The scale I employ in connection with the four characters I call the "sound-scale," because to each of its positions is assigned a certain determined sound, which sound is assumed by that one of the four characters which may be placed in that position. The sound-scale has six graduations, corresponding respectively with the sound of the vowels in the English language as ordinarily pronounced. The object of the sound-scale is to render unnecessary the use of any characters to represent vowel sounds, it being such a qualification of the original character as to render unnecessary any changes in its form—the positions or graduations of the scale imply their sounds—so that it is readily seen and understood that a character placed in any one position on the scale assumes or takes, in addition to its own sound, the sound that attaches to such position on the scale, or, in other words, assumes a new value while preserving its form unchanged.

My improved system of writing is susceptible of several modes of practical application, one of which I will now proceed to describe in connection with the accompanying drawings. Each figure of the drawings, and all the parts

of said figure, will be described entire before proceeding to another figure.

The colors employed to distinguish the characters are represented in the drawings as follows: Red is represented by black; blue, by a black circle; green, by parallel perpendicular lines, and yellow by parallel horizontal lines.

Referring to the drawings, in Figure 1 is represented the vowel or sound scale. It is composed of three parallel lines, B C D, two spaces, F G, between said lines, and one space, H, above said lines, which lines and spaces stand for the vowel sounds of the English language in the following order: Line B is *a*, space F is *e*, line C is *i*, space G is *o*, line D is *u*, and space H is *y*.

In Figure 2 are represented three varieties of the characters I employ. The first set of characters, I, consists of four circular differently-colored figures, *a' b' c' d'*, which are colored, respectively, red, blue, green, and yellow. The second set of characters, J, consists of one open circle *f*, a perpendicular stroke, *g*, a right-oblique stroke, *k*, and a left-oblique stroke, *j*. The third set of characters, K, consists of a bird, *k*, a fish, *l*, a quadruped, *m*, and a plant, *n*. These several sets of characters are the equivalents of one another in the perpendicular order in which they are placed—*e. g.*, the red character *a'*, the open circle *f*, and the bird *k*, are equivalents—as are likewise the remaining characters in the same order. Relatively the characters may be designated as "first," "second," "third," or "fourth" place, as at L; or phonetically by four letters of the English alphabet—*viz.*, H G P L—as at M. The sounds of the several characters are the following: Those of the first or H place have a sound identical with that produced in the enunciation of the letters "ah," as ordinarily pronounced in the English language. Those in the second or G place have the sound of the English letter "G." Those of the third or P place have the sound of the English "P," and those of the fourth or L place have the sound of the English "L." The relative positions of the character just described are only adopted for convenience, and are therefore arbitrary; consequently their positions relatively to one another may be changed to the extent of the combinations that can be made of the four characters.

Fig. 3 represents a key to my improved

system for translating it into ordinary English language, and also in this figure is shown the combination of two sets of characters with the sound-scale—viz., first, characters differing in color, (indicated in said Fig. 3 by the marginal number 1;) second, characters differing in form, (marginal number 4.) Number 2 shows the sound of the characters in the several positions on the sound-scale and their pronunciation in the letters of the English alphabet. The English alphabet consisting, as it does, of twenty-six letters, it is necessary, in order to represent their equivalents in my four characters, to repeat the characters as many times as is necessary to equal the said twenty-six letters, so that it will be seen that their repetition in each position of the sound-scale is indispensable when the whole alphabet is shown, except in the third space, H, Fig. 1, where the second and third place characters (see Fig. 2) only are repeated, and these represent the sounds “gy” and “py,” or their equivalents “x” and “z.” Marginal number 3 of Fig. 3 indicates the letters of the English alphabet which are the equivalent of the characters indicated by marginal numbers 1 and 4. To convert the character language into the English language it is only necessary to remember what letter of the English language corresponds with the character-sound used, and by combining such corresponding or equivalent letters together the desired word is formed. By referring to those parts of Fig. 3 opposite marginal numbers 1 2 3 it will be seen that the four characters H G P L, independently of the sound-scale, represent the first four letters of the English alphabet, while the remainder of the alphabet is represented by the same characters in different positions on the sound-scale. The following is an example of the conversion of the character language into English: Opposite marginal number 9 the first character-word on the line is “gihpi.” In the marginal numbers 1 2 3 we find that the sound “gi” is the equivalent of “m,” sound “h” of “a,” and “pi” of “n,” and these three letters forming the word “man,” consequently “gihpi” is the character-word for man.

In Fig. 3 are also indicated, by marginal numbers 7, 8, 11, and 12, two sets of characters combined into words and sentences. Numbers 9 and 13 give the pronunciation of the character-words in numbers 7, 8, 11, and 12, as illustrated by letters. Numbers 10 and 14 give the meaning in the English language.

It is to be here noted that all the rules applicable to the English language are likewise applicable to the character language, and that the same rules in punctuation are to be observed. The punctuation-marks are to be placed in the space above the line D.

I will now describe one mode of practically applying my improved system of writing and signaling, as above described. First in electric telegraphing through a galvanometer.

Fig. 4 represents the top of a galvanometer of ordinary construction, but having its dial-

plate A' graduated into three lines, f' g' h' , instead of the usual graduation into degrees. These three lines, with the spaces i' j' k' , take the place on the dial of the three parallel lines and spaces of the sound-scale, (shown in Fig. 4,) and serve as a sound-scale, B', for the galvanometer. D' is a six-pointed indicator, designed to be attached to the needle (not shown) of the galvanometer. Four of the points of the indicator are colored to correspond to the characters I in Fig. 2. Thus l' is red, m' is yellow, n' is green, and o is blue. The said points are made to turn around the dial by the action of the electric current on the needle of the galvanometer to which they are designed to be attached in the usual manner. The movement of the colored pointers l' m' n' o to the lines and spaces of the sound-scale B' are intended to be the same in effect as placing the colored characters in Fig. 2 in the position which the said colored indicators may be made to occupy, and will have the same signification. Thus if the red pointer, l' , is moved to the line f' it will indicate the character-sound of a red character, a' , Fig. 2, and also the sound of the first vowel “a,” giving thus the sound of “ha,” which sound represents the English “e,” (see Fig. 3;) and so with the other colored pointers, when moved on the lines and spaces of the sound-scale, they each signify the sound appropriate to its color, as shown by the characters I in Fig. 2, the sound of the line or space to which it is moved on the sound-scale, and the equivalent letter of the English alphabet, as shown in Fig. 3.

The colored pointers may be designated by numbers, as 1 2 3 4, or in any other manner. Other scales may also be placed on the dial, and the character-pointers may be made to indicate any meaning which may be agreed upon, as they are brought respectively in the different positions of the scale.

Numerals may be expressed by the indicators in connection with the scale B', it being first necessary, however, to exhibit a character that by consent would signify that numerals were to be expressed. This sign may be made, for instance, by exhibiting the yellow pointer m' in the space above the line h' , and the pointers would indicate numerals in connection with the scale, as follows: red l' on line f' , a cipher; blue o on line f' , 1; green n' on line f' , 2; yellow m' on line f' , 3. On line g' red pointer l' would signify two ciphers; blue pointer o , 4; green n' , 5; yellow m' , 6; red on line h' , three ciphers; blue o on same line, 7; green n' on said line, 8; yellow m' on said line, 9; red in space i' , 10; blue, 20; green, 40; yellow, 80; red in space j' , 100; blue, 200; green, 400; yellow, 800. Red above line h' in space k' would indicate that the use of numerals was concluded. The movements of the pointers are to be controlled, as is ordinarily done, with galvanometers.

In Fig. 5 the word “welcome” is shown as written in the three kinds of characters illus-

5 trated in Fig. 2—the phonetic equivalents H G P L of those characters, the syllables which the characters spell out, and the letters of the English alphabet corresponding to those syllables.

I am aware that it is not new to communicate ideas by means of a few characters differing in form and position in relation to one or more horizontal lines, and I do not claim
10 this broadly; but,

Having thus described my invention, what I do claim, and desire to secure by Letters Patent, is—

1. An alphabet consisting of four characters
15 differing in form or color, three horizon-

tal parallel lines, and the spaces between, above, and below said lines, the lines and spaces together representing the vowel sounds and forming the sound-scale, as shown and described.

2. In combination with the alphabet, composed as described, the dial A', graduated into the three lines *f' g' h'*, and the six-pointed indicator D', substantially as shown and described, and for the purpose set forth.

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Witnesses:

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