

(No Model.)

J. L. WINNEA.
CRYPTOGRAPHAL TABLE.

No. 294,175.

Patented Feb. 26, 1884.

Fig: 1.
TABLE 1.

1	2	3	4	5	6	7	8	9	10
1 Ab	il Cl	ca Ex	gh Hr	ke Ia	lg Ne	ab Pl	gu Rp	sh Tj	ub Wa
16 Bu	cj Dy	ev Ge	hu In	kk Ip	nd Ky	pk Ph	ro Sj	ti Tk	vu Wg
17 Ade	bae Bri	cla Day	fec Cal	hev Ile	lac Inag	pad Pas	plu Rac	sed Tob	tig Val
									war

Fig: 2.

TABLE 2.

1	2	3	4	5	6	7	8	9	10
44 A	B C	D E	F G	H I	J K	L M	N O	P Q	R S
45 U	V W	X Y	Z	1 2	3 4	5 6	7 8	9 10	11 12
46 14	15 16	17 18	19 20	21 22	23 24	25 26	27 28	29 30	31 32
47 an	as at	be by	do go	he if	is in	it my	no of	on or	so to
48 Belle	aa Date	db Foot	fp Gain	hz Halve	jz Lance	mz House	qz Scant	uf Taste	uw Wart
83 A	E	I	T	As	At	Be	By	In	It
84 He	Of	Or	To	And	The	From	Have	That	Will

Fig: 3.

TABLE 3

1	2	3	4	5	6	7	8	9	10
85 Abandon	a2 Appropriate	j3 Bachelor	s4 Chronicle	16 Daughter	17 Facilitate	18 Incendiary	20 Incurate	30 Persuade	50 Terminate
119 Affiliate	i3 Amusement	4 Christian	a6 Cultivate	7 Exquisite	8 Impractical	21 Jurisprudence	32 Personate	50 Sufferance	60 Yourself

Fig: 4.

TABLE 4.

85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Third	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale	Thale
120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161

Fig: 5.

TABLE 5.

1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k	1l	1m	1n	1o	1p	1q	1r	1s	1t	1u
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CRYPTOGRAPHAL TABLE.

SPECIFICATION forming part of Letters Patent No. 294,175, dated February 26, 1884.

Application filed January 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. WINNEA, of the city and county of San Francisco, and State of California, have invented an Improvement in Cryptographic Tables; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to cryptograms, and to a means for constructing tables for secret correspondence or other similar purposes; and it consists of a series of vertical columns of arbitrarily-selected letters, words, or figures, and in connection with these of alternate numbers and blank spaces arranged transversely above the columns, or line numbers or spaces arranged vertically upon opposite sides of the columns, so that by permutations of the words or symbols many different tables may be constructed with corresponding keys for the same, as will be more fully explained by reference to the accompanying drawings, in which—

Figures 1, 2, and 3, Tables 1, 2, and 3, are views showing alternate figures and spaces above, also line-figures at the right, and corresponding blanks at the left, only the first and last lines of a table being shown. Fig. 4, Table 4, shows a table of words with figures at the sides, above and below, only the first and last lines of these being shown. Fig. 5, Table 5, shows one of the broken lines for constructing telegrams.

In Figs. 1, 2, 3 I have shown vertical columns of letters, figures, or words, which may be arranged alphabetically or in any desired manner, and containing as many words or symbols as it may be necessary or desirable to use. In the present case I have shown the first three or four and last two lines of columns, from one to ten, numbered in a horizontal line above the columns. By the side of each of these numbers is a blank space, within which any other number less than ten and not the same may be written in constructing a cipher, as will be hereinafter described. Upon the left side of the table is a column of figures opposite the words or symbols in the table, and by which the lines are numbered, and upon the right side corresponding blank spaces, in which other numbers may be written when a cipher is constructed. In the present case I have made two blank columns, each corresponding with

alternate horizontal lines of words in the columns, in order to give plenty of space to write in the numbers.

In constructing a cipher to be used the blank spaces at the heads of the columns are each filled in with any of the first ten figures, but not in the same order as those which are printed there. These figures may be drawn by lot, placed arbitrarily, or in any irregular order. In the same manner the blank figure-columns at the right of the table may be filled in with numbers which differ in the order in which they are placed from those at the left, but are also within the same range. The words, phrases, or sentences which are to constitute the cipher are then decided upon, and the letters, figures, words, or symbols which are to correspond with them are selected from the columns of the table. It will be manifest that each of these words or symbols will be located by its position in the columns from one to ten, when these column-figures are employed to designate them, or by the horizontal line-figures when the latter are to be used. Either set of figures may thus be employed in constructing the cipher. The key will be made by taking the letters, words, or symbols in the lines of the blank spaces where the figures have been written in, as before described, and thus making a new and different table. Both tables having been completed, the words, sentences, or parts of sentences, represented by the symbols in the columns of the printed numerals, will have their corresponding cipher in the columns where the numerals have been inserted. Two copies of the tables are thus made, or one for each correspondent. The operation will then be as follows: The matter is first written out in full. I then look in the tables for the first word, and if the whole word cannot be found I take syllables or parts of it, as found in the different columns, and then take the cipher of each item and set them down in the order required. For instance, if the first word is "pause," I find it in table two under printed number 7. I then follow the same line out to the column of the inserted number 7, which in the present case may be next to the printed column number 10, and I find that y k is the corresponding cipher. If I need a word which is not in the

tables, I take separate parts from different columns, and find the ciphers in the same manner as for the words, and proceed thus until all the matter has been written. The correspondent, upon receiving the cipher letter or message, reverses the operation and thus decipheres it. If the line-numbers be used instead of the column-numbers, I find my matter by the line-numbers upon the left-hand margin, and the cipher from the line having the same inserted number in the right-hand blank spaces.

By means of these tables with the permanent printed lines or columns of figures and the corresponding inserted lines or columns, which may be written in an almost endless variety of permutations, a great variety of ciphers may

be constructed from my tables, which occupy only four pages of a letter-sheet.

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

A table or tables from which cryptograms with keys therefor may be constructed, consisting of columns of letters, figures, words, or symbols, and corresponding lines or columns of numerals or figures above or at one side, together with blank spaces, in which other independent numerals or figures may be inserted, substantially as herein described.

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