

H. C. NICHOLSON.
TELEGRAPH APPARATUS.

No. 112,836.

Patented Mar. 21, 1871.

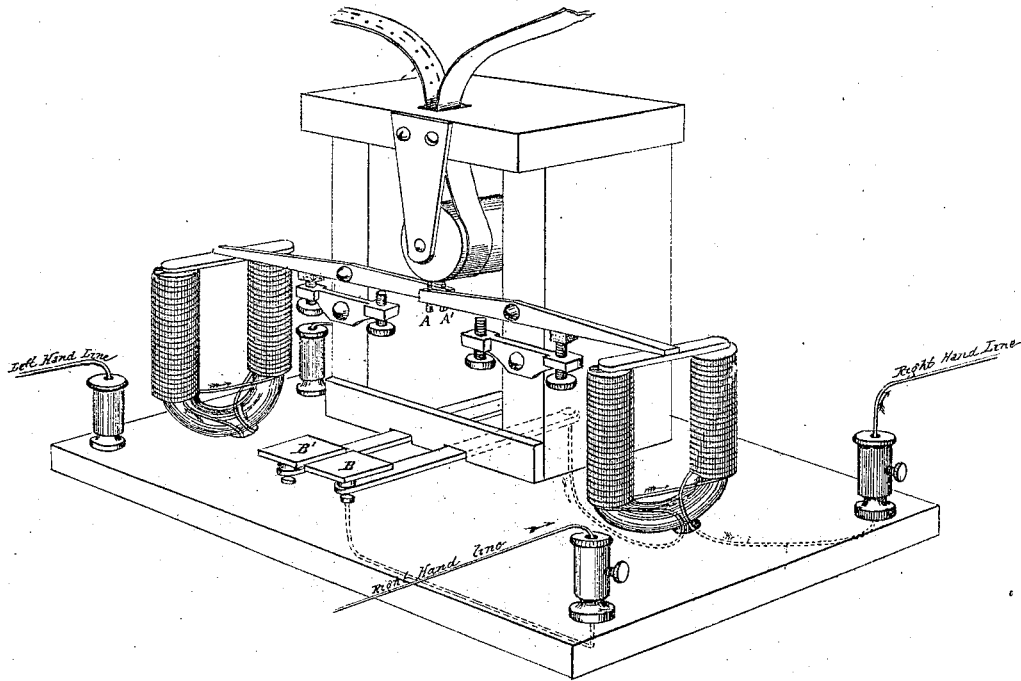


Fig. 2.

A	E	I	O	U	S	M	N	H	C	L	P	D	R	B	V	X	W	Y	T	Z	G	K	F	J	Q	&
1	2	3	4	5	6	7	8	9	0	.	,	;	:	!	?	\$	@									

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IMPROVEMENT IN TELEGRAPH APPARATUS.

Specification forming part of Letters Patent No. **112,836**, dated March 21, 1871.

To all whom it may concern:

Be it known that I, HENRY C. NICHOLSON, of Mount Washington, Hamilton county, State of Ohio, have invented an Improved Double-Line Telegraph and System of Alphabetic Signals; and I hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable one skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawings, making part of this specification.

My invention consists of a certain peculiar combination and arrangement of two magnets, levers, and printing-pins controlled by two separate and distinct lines and keys for the purpose of communicating a simultaneous, though separate and distinct, double line of signals, which are delivered with such relation to each other that a telegraphic alphabet is formed by the use of less time and less number of strokes than is possible by any other known method, and without the possibility of a confusion of signals.

My invention further consists of a telegraphic alphabet specially adapted to be used in connection with the peculiar arrangement of lines and keys described in the preceding clause.

In the accompanying drawings, Figure 1 is a perspective view, showing the arrangement of the instruments at one end of the two lines. Fig. 2 illustrates my double line of signals for alphabet, numerals, &c.

The apparatus I use is simply a double line complete in every particular, each line arranged to operate wholly independent of the other, except in the printing of the signals, when both join to produce a signal-tape with two rows of characters, the printing-pins A A' being placed in close proximity, as shown. The keys B B' are placed so close together that the fingers of the operator can slip from one to the other in forming the signals, and, as the lines are independent, a dot can be communicated through one line and a dash through the other at one and the same time, or a dash through each line at the same time. If the signals are read by sound and not printed it will simply be necessary to subdue the sound of one of the instruments, and the difference in sound of the two lines will enable the operator to read both signals together. By this arrangement signals can be communicated through each line separately or both lines together, at will.

The signals are formed by dots and dashes in the manner shown in Fig. 2, the letter A being indicated by two dots, one on each line

at the same time; E, by one dot on the right-hand line; I, by one dot on the left-hand line; other letters by dashes in the same manner and of various lengths, and still others by striking both keys together and removing one finger quicker than the other, thus producing a dot and dash, or a short dash and long dash together. Some of these signals are produced by a rolling motion of the two fingers over the keys from left to right or right to left—as, for example, the W is produced by rolling the index and middle fingers from right to left over both keys. To make Y, roll the index and middle fingers from left to right over both keys. To make D, place the middle finger on the right key, strike the other suddenly with the index finger, and elevate both at the same time. L is made in the reverse way to D.

The advantage of this double line of signals is that less strokes are needed to produce the letters, and they can be put together as fast as they can be made without danger of confusion. Consequently no time is lost in giving space to signals as in all the old systems.

I am aware that in Stochrer's double-style apparatus, described in Sabine's "Treatise on the Electric Telegraph," two electro-magnets with separate printing-beams acting upon the same strip of paper are employed. In the above apparatus only a single local battery, directed to the one or other electro-magnet by a relay, is used, so that the printing-beams can act alternately only, whereas I employ two batteries and two separate lines and two independent keys, so that the printing-beams can act simultaneously as well as alternately.

I am also aware of the double-line alphabet described in the above treatise in connection with Stochrer's double-style apparatus, and do not therefore claim, broadly, such a system of signals.

I claim—

1. The relative arrangement of the double-line telegraph herein described, for the purpose of communicating a double line of signals simultaneously or separately, at will, the signals being united by sound or printing to produce a single message.

2. The arrangement of the dots and dashes in the double-line alphabet, figures, &c., as described, and for the purpose specified.

In testimony of which invention I hereunto set my hand.

Witnesses:

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