

becomes magnetic while the galvanic current is made to pass through the wire, and ceases to be a magnet when the current is cut off. Advantage is taken of this circumstance to apply machinery for the printing of a telegraphic alphabet by dots and lines in the manner following.

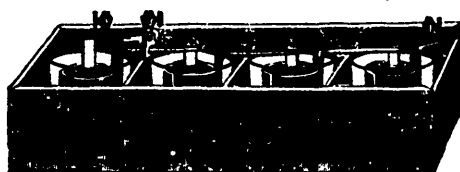
### MORSE'S TELEGRAPHIC ALPHABET.

ALPHABET.		NUMERALS.
<i>a</i> — — —	<i>n</i> — — —	1 — — — —
<i>b</i> — — — —	<i>o</i> — — —	2 — — — —
<i>c</i> — — — —	<i>p</i> — — — —	3 — — — —
<i>d</i> — — — —	<i>q</i> — — — —	4 — — — —
<i>e</i> — — —	<i>r</i> — — —	5 — — — —
<i>f</i> — — — —	<i>s</i> — — —	6 — — — —
<i>g</i> — — — —	<i>t</i> — — —	7 — — — —
<i>h</i> — — — —	<i>u</i> — — —	8 — — — —
<i>i</i> — — —	<i>v</i> — — —	9 — — — —
<i>j</i> — — — —	<i>w</i> — — —	0 — — — —
<i>k</i> — — — —	<i>x</i> — — —	
<i>l</i> — — —	<i>y</i> — — —	
<i>m</i> — — —	<i>z</i> — — —	
	<i>q</i> — — —	

The improvement by which the Telegraph has now become so extensively useful, has been in the direction of the indicating or registering apparatus, by which the passage of the fluid at the distant station is noted.

The following descriptive particulars of the manner in which the telegraphic process is conducted in the Provinces are obtained chiefly from Davis' Book of the Telegraph already referred to.

The annexed diagram represents a galvanic battery of four cups. In the



galvanic series the zinc of each pair\* is connected with the platina of the next. The current produced by each of these pairs flows in the same direction and falls in with all

the others. The number of pairs in the telegraph being proportioned to the distance which the current is to traverse.

Each pair of this battery consists of a pint glass tumbler, a cylinder of zinc, a small porous cylindrical earthenware cell within the zinc, and a platinum strip suspended within the cell from an arm belonging to the zinc of the next pair. A solution of diluted Sulphuric Acid is used with the zinc, outside the

\*The arrangement of what is termed a "pair" of Grove's Battery, is as follows: A cylinder of Zinc amalgamated with Mercury stands in a glass cup containing dilute Sulphuric Acid; within the cylinder is placed an unglazed porcelain cup to contain Nitric Acid. A strip of platinum is suspended in the acid by attachment to an arm proceeding from the Zinc cylinder. One of the terminal wires is connected with the Zinc, the other with the platinum, in order to form the galvanic circuit.