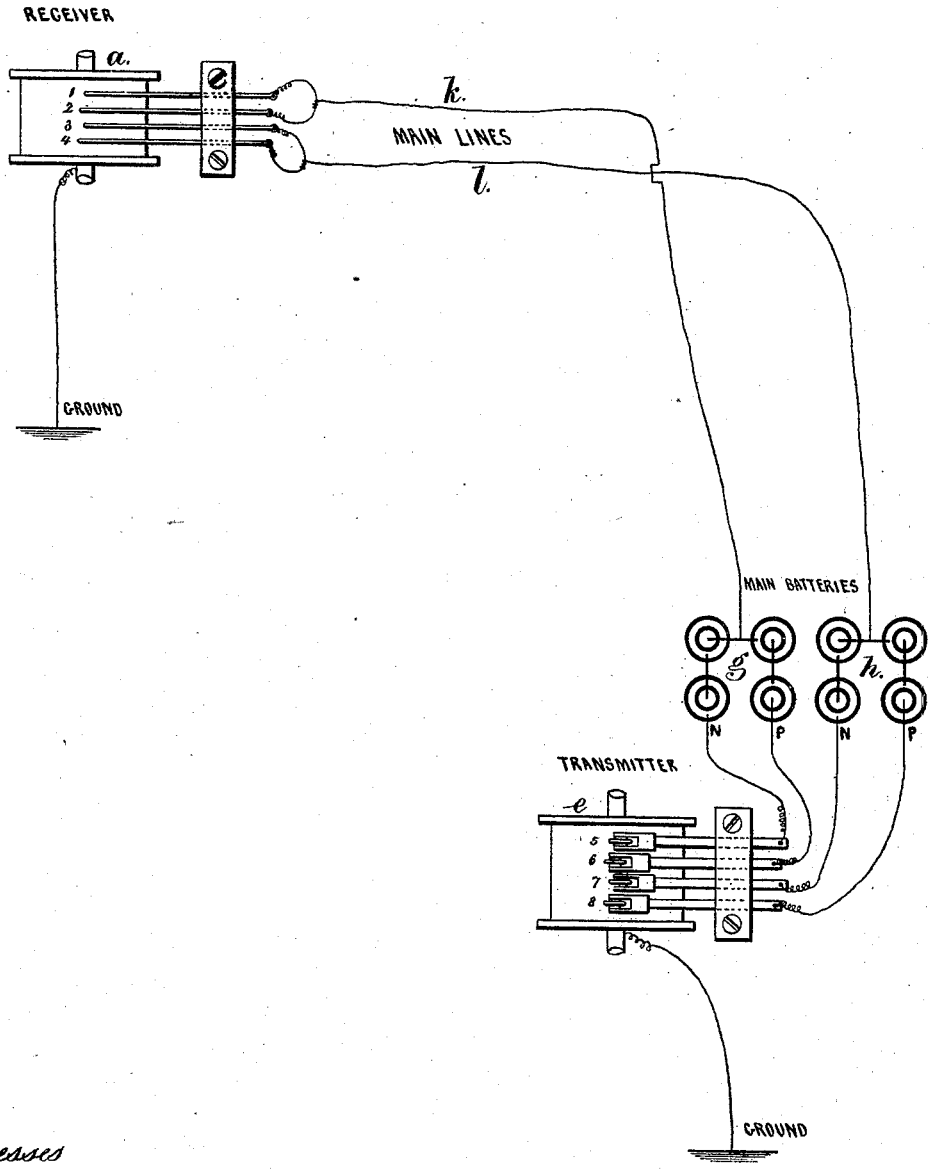
T. A. EDISON.

AUTOMATIC ROMAN-CHARACTER TELEGRAPH.

No. 172,305. Patented Jan. 18, 1876.



Witnesses

Chas. H. Smith

Howard Smith

Inventor

Thomas A. Edison.

per Lemuel W. Serrell

atty.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF AND GEORGE HARRINGTON, OF WASHINGTON, D. C.

IMPROVEMENT IN AUTOMATIC ROMAN-CHARACTER TELEGRAPHS.

Specification forming part of Letters Patent No. **172,305**, dated January 18, 1876; application filed January 15, 1875.

No. 92.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Newark, in the county of Essex and State of New Jersey, have invented an Improvement in Automatic Telegraphs, of which the following is a specification:

This improvement is available in transmitting block or Roman characters made by perforations in a strip of paper, such as shown in my Patent No. 151,209, and receiving the same upon a strip of chemically-prepared paper.

I make use of four transmitting-rollers and two line-wires, and I arrange the rollers to act in pairs, one slightly ahead of the other, and I arrange the circuits so as to send positive or negative currents, and employ points or styluses in pairs, one of which is iron, the other tellurium, the decomposition in the chemical paper with one metal taking place with the positive current, and with the other metal with a negative current; hence, although all four points are in contact with the chemical paper, only one on each line will be operative, according to the polarity of the current passing over that line.

In the diagram on the drawing, *a* represents the receiving-roller, over which the chemical paper is drawn, as usual. 1 2 3 4 are the stylus-points, 1 and 3 being of iron. 2 and 4 are slightly in advance of 1 and 3.

At the sending station the roller or drum *e* receives the paper, which is perforated with holes, indicating block-letters, as in said Patent No. 151,209, and the paper is drawn along upon the roller *e*, as usual, and it passes beneath the circuit-closing points or rollers 5 6 7 8, and the rollers 6 and 8 are in advance of the rollers 5 and 7. There are four rows of perforations in the paper to compose the letters, so that to each row there is a circuit-closer. There are two batteries, *g* and *h*, connected to the line-wires *k l*, each line-wire being connected to the middle of the battery, and ends *n* and *p* leading to the respective circuit-closers 5 6 and 7 8; the rollers or drums *a* and *e*, respectively, being connected to the earth, and the line-wires at the receiving end being connected, one to 1 and 2, and the other to 3 and 4.

The operation is, that when either 6 or 8 closes the circuit through the perforations in the paper, a positive current passes by the ground, and the return is through the line-wire, and the tellurium point 2 or 4 makes its mark, but the iron point does not make any mark; but when either 5 or 7 closes the circuit through the perforated paper the current passes over the line-wire, returning through the earth, and the iron point marks with this current, but the tellurium does not; hence, as the rollers that work with one line-wire are one in advance of the other sufficiently for currents of opposite polarity to be sent by perforations that are in line across the strip, the marks at the receiving-station will, in consequence of the movement of the paper, occupy their proper positions, and the aggregate result will be a letter corresponding to that produced by the perforations of the transmitting-strip.

If three line-wires are employed instead of two, there may be six rows of perforations made use of in the letters.

I claim as my invention—

The combination of two or more transmitting points or rollers, arranged one in advance of the other, and the connections to the batteries and line-wires, so as to transmit positive or negative currents by the perforated paper, with stylus-points of different metals, arranged one in advance of the other, so that one marks with a negative, and the other with a positive, current, substantially as set forth.

Signed by me this 7th day of August, A. D. 1874.

THOMAS A. EDISON.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.