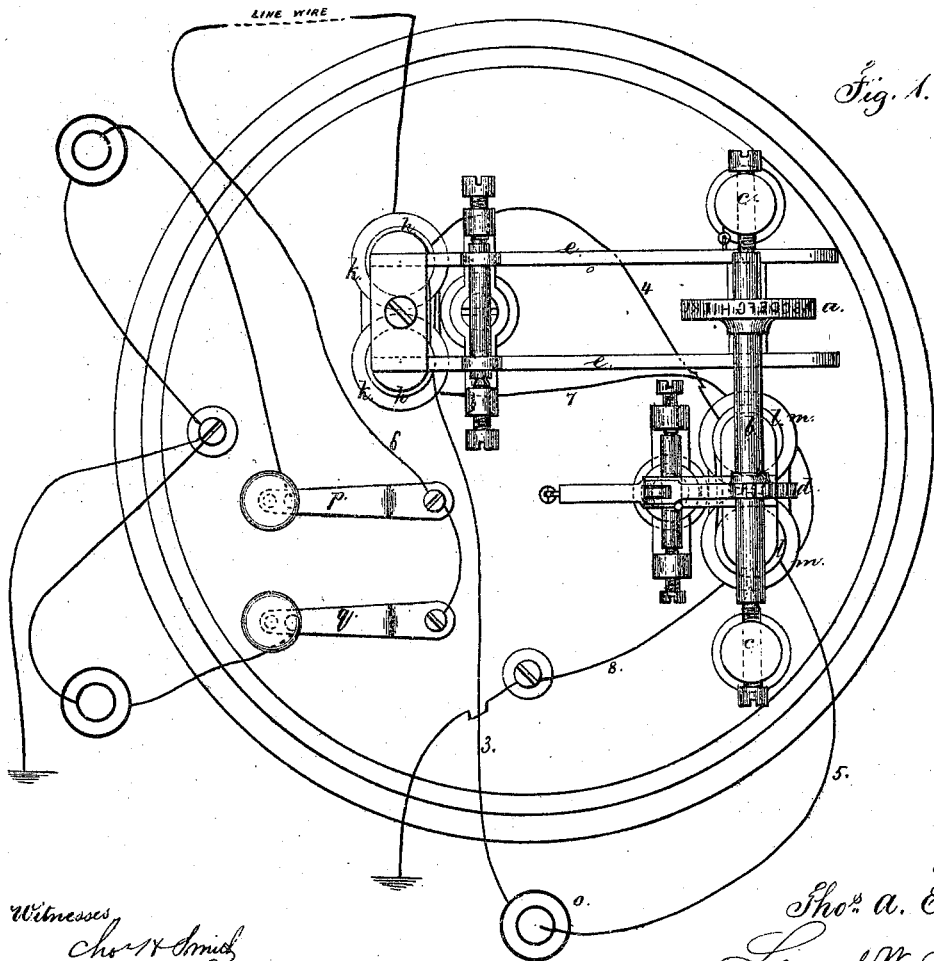
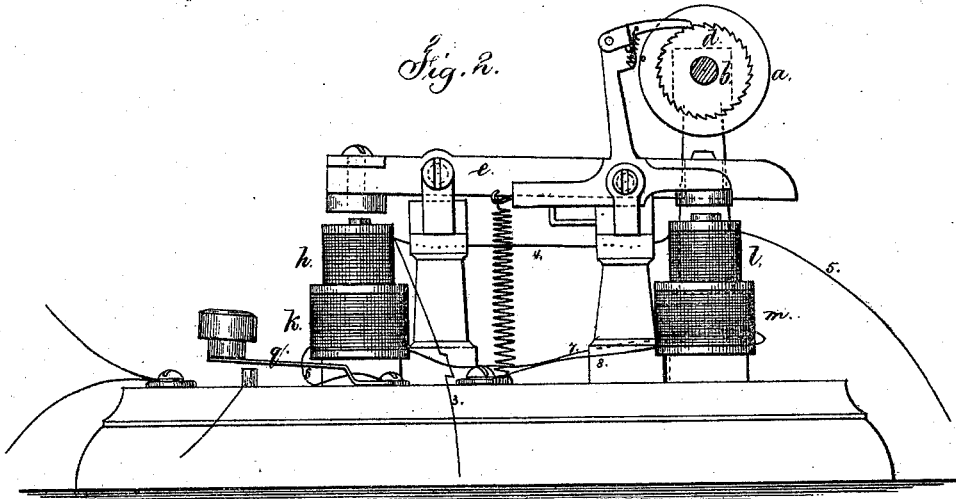


T. A. EDISON.

Improvement in Printing-Telegraphs.

No. 128,605.

Patented July 2, 1872.



Witnesses
Chas. A. Smith
Harold Fenell

Inventor
Thos. A. Edison,
Lemuel W. Fenell atty.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. 128,605, dated July 2, 1872.

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 Printing-Telegraphs; and the following is a correct description thereof.

This instrument is provided with two compound magnets—one to move the type-wheel, the other to move the printing-lever. One spool of each magnet is in a local constant circuit, and the other spools or helices in the main line, and these are wound so that a positive current on the main line neutralizes the magnetism from the local constant battery in the printing-magnet and intensifies the magnetism in the type-wheel magnet; hence the type-wheel can be set by a current of one polarity, and, when the polarity of the main-line current is reversed, the magnetism in the type-wheel magnet is neutralized, and that in the printing-magnet intensified to give the impression.

In the drawing, Figure 1 is a plan of the instrument, and Fig. 2 is a side view with one of the standards or frame removed.

The type-wheel *a* on the shaft *b*, supported in the frames or standards *c*, is to be revolved by a step-by-step motion applied to the ratchet-wheel *d*, and the impression is given by the printing-lever *e*; and I remark that these parts may be of any desired character, as my invention may be employed with single or compound type-wheels and with any desired step-by-step movement. The printing-magnet is composed of the usual cores within the double spools or helices *h k*, and the type-wheel magnet is also compound, having the helices *l m*. The helices *h* and *l* are in a local constant circuit, 3 4 5, from the battery *o*, and the helices *k m* are in the circuit 6 7 8 connected to the main

line. The keys or pulsators *p* and *q* may be of any desired character, such as a transmitting-dial, or other means for making and breaking the main-line circuit.

The parts are arranged and the helices wound so that when a current of one polarity is sent over the main line the printing-magnet will be inoperative, in consequence of the current in the helices *k* tending to produce polarity in the cores the reverse of that produced by the constant circuit in the spools *h*. At the same time the type-wheel magnet will be sufficiently energized to overcome its resistance or spring, in consequence of the current in both helices *l m* producing the same polarity in the cores; but when a pulsation of the opposite polarity is sent the type-wheel magnet will be inoperative, and the printing-magnet energized to give the impression.

In this manner a printing-telegraph instrument can be operated by one line-wire without any switch or polarized circuit-changer, the local constant battery being employed with each instrument.

I claim as my invention—

The compound type-wheel magnet and the compound printing-magnet in a printing-telegraph instrument, in combination with a local constant circuit connected to one set of spools in such magnets, and the main-line current connected to the other spools of such magnets, to be operated substantially in the manner and for the purposes set forth.

Signed by me this 26th day of April, A. D. 1872.

T. A. EDISON.

Witnesses:

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