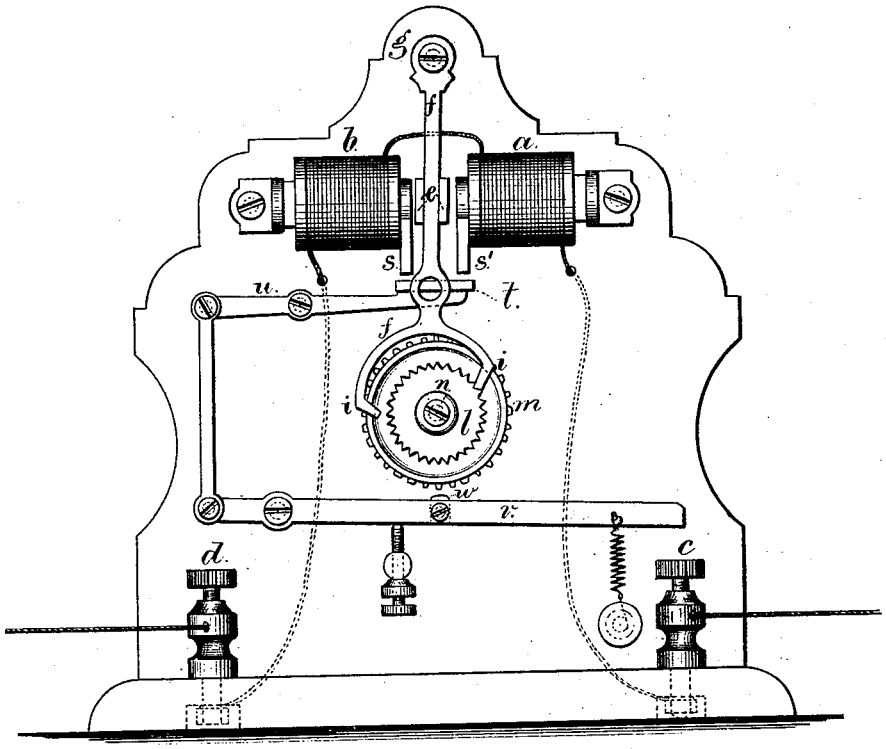
T. A. EDISON.

Printing-Telegraph.

No. 168,004. Patented Sept. 21, 1875.



Witnesses

Chas. H. Smith

Harold Serrell

Inventor

Thos. A. Edison.

per Lemuel W. Serrell

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE GOLD AND STOCK TELEGRAPH COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN PRINTING-TELEGRAPHS.

Specification forming part of Letters Patent No. **168,004**, dated September 21, 1875; application filed June 1, 1874.

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, of which the following is a specification:

Two electro-magnets operating upon an armature have been used, and the magnets have been charged with pulsations of alternate opposite polarity, and the armature has acted to move the type-wheel.

My present invention relates to this class of printing-telegraphs; and consists in an arrangement of armatures, electro-magnets, type-wheel, and printing-lever, so that the printing is effected by the same magnets that set the type-wheel when a pause occurs in transmitting currents of alternate opposite polarity.

In the drawing I have represented, by an elevation, the instrument as arranged by me.

The electro-magnets *a b* are in the main-line circuits that connect with the binding-screws *c d*, and between the cores of these magnets is the armature *e*, that is by preference made double, and upon opposite sides of the lever *f* that has its fulcrum at *g*, and is provided with wedge-acting pallets *i i*, operating upon the ratchet-wheel *l*, shaft *n*, and type-wheel *m* to rotate the same. The cores of the electro-magnets are extended laterally, as at *s s'*, and an armature, *t*, is provided upon the lever *u*, that is connected with the printing-lever *v*. The pulsations sent over the line are of alternate opposite polarity, so that the armature *e* will be repelled from the magnet, with which it is in contact, as the current of opposite polarity enters the helix, and the armature and lever by their momentum (from repulsion) are thrown toward the opposite magnet, and the armature is attracted thereby. In this manner the type-wheel pallets will be moved with as great rapidity as the pulsations of alternating polarity can be sent. The armature *t*, however, will not be attracted because the magnetic energy of one polarity does not accumulate sufficiently before the pulsation of opposite polarity is introduced; but when a slight pause occurs on a closed circuit the armature *t* is attracted, and the printing-lever is moved, and the impression made by the pad *w*, pressing the paper toward the type-wheel.

The mechanism for moving the paper forms no part of my invention, and may be of any desired character.

I claim as my invention—

1. Two electro-magnets in the electric circuit, with an armature moved between their cores in consequence of reversing the polarity of the pulsations, such armature actuating the lever and type-wheel, in combination with the lateral cores of the electro-magnet and the armature that operates the printing-lever, as set forth.

2. The arrangement of the type-wheel lever and armature between two electro-magnets, and an armature and lever at one side of the type-wheel, operating an impression-pad at the opposite side of the type-wheel, substantially as set forth.

Signed by me this 22d day of May, A. D. 1874.

THOS. A. EDISON.

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