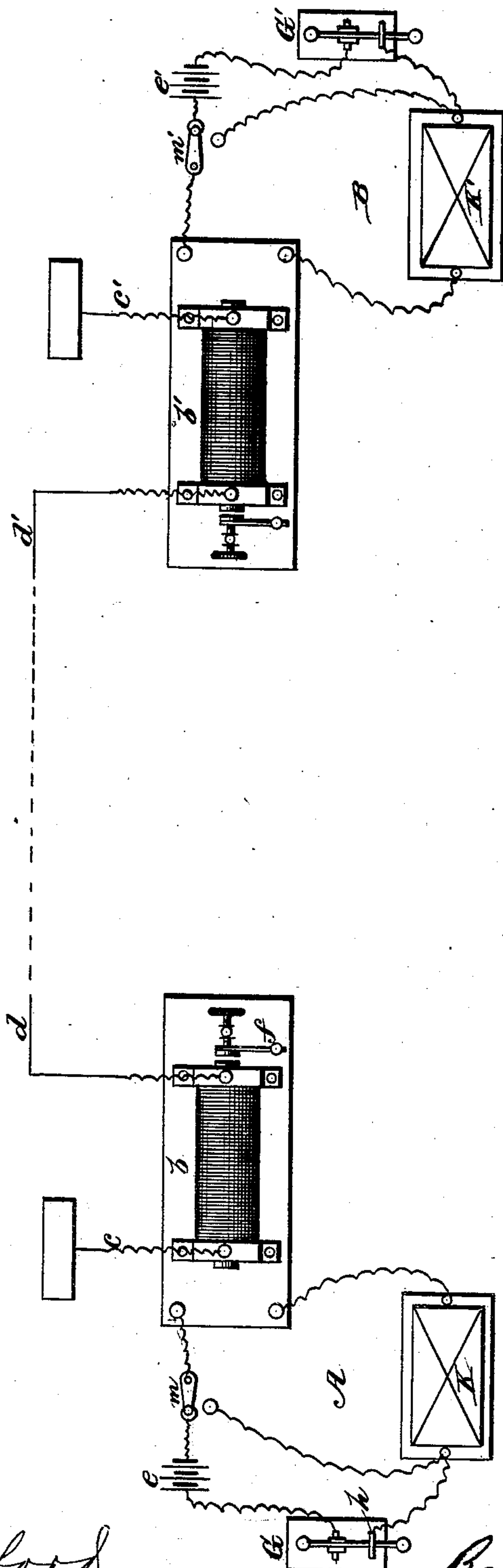


(No Model.)

L. MAICHE.
Telegraph.

No. 243,454.

Patented June 28, 1881.



Witnesses
Robert Courtt.
J. A. Rutherford

Inventor:
Louis Maiche.
By Brown & Brown.
Atty.

UNITED STATES PATENT OFFICE.

LOUIS MAICHE, OF PARIS, FRANCE.

TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 243,454, dated June 28, 1881.

Application filed October 21, 1880. (No model.) Patented in France September 15, 1880.

To all whom it may concern:

Be it known that I, LOUIS MAICHE, of Paris, in the Republic of France, have invented a certain new and Improved System of Transmitting and Receiving Electric Currents for Telegraphic Purposes, (for which I have obtained Letters Patent in France, dated September 15, 1880,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a new system of transmission and reception of electric currents, which is intended more particularly for the transmission and reception of telegraphic dispatches, but is applicable generally to the transmission of electric signals of all kinds.

The object of my invention is to dispense with heavy batteries on telegraph-lines, and this I accomplish by transforming at the station of departure a battery-current of quantity and weak tension into an induced current of high tension capable of overcoming the resistance of the line, and then retransforming at the receiving-station this induced current into a current of quantity, which actuates directly a receiving-instrument for sounding or registering the "makes" and "breaks," or dots and dashes.

My invention consists in the combination, with a telegraph-line wire, of an induction-coil having its secondary circuit connected with the said line and with the ground, a local battery and a circuit-closing key included in circuit with the primary coil of said induction-coil, which circuit is normally open, and a rheotome arranged to rapidly make and break said circuit when said key is closed, whereby a receiving-instrument connected with the primary coil of an induction-coil, the secondary coil of which is connected with said line, may be operated by a quantity-current of low tension to produce makes and breaks, or dots and dashes, of varying length, the dashes or makes longer than a dot being each formed by a series of rapidly-consecutive pulsations over the line, all as hereinafter more particularly set forth.

The accompanying drawing is a diagram of an arrangement of apparatus for carrying into practice my invention, the various elements not being shown in constructive detail, as they are well known.

The two sections A and B may alternately act as sending and receiving stations. The

stations are respectively provided with induction-coils *b* and *b'*, the fine-wire or secondary coils of which are connected at one end to the ground by wires *c c'*, and at the other end with the line through wires *d d'*. The keys *G* and *G'* and receivers *K* and *K'* and the primary coils are included in the circuits of the respective local batteries *e* and *e'*. When the knob *h* of the key *G* at one station is depressed the circuit of the local battery *e* is closed through the primary coil of induction-coil *b*. The rheotome *f* becomes active, and rapidly-consecutive electrical impulses of high tension traverse the secondary coil and line, and also the secondary coil at station B, producing in the coarse-wire or primary coil of induction-coil *b* a series of rapid fluctuations of quantity-current, which act upon the Morse receiving-instrument *K'*, and produce upon its strip of paper a series of point-marks so close together that they form practically a line or dash, such as is ordinarily made by similar instruments. By operating the key at the sending-station in the usual manner a dot-and-dash message may be sent.

The battery and key may be normally switched out of circuit with the primary coils by any ordinary switches, as shown at *m* and *m'*, and the receiver only left in circuit with said coil to act as a call.

What I claim is—

The combination, with a telegraph-line wire, of an induction-coil having its secondary circuit connected with said line and with the ground, a local battery and a circuit-closing key included in a circuit with the primary coil of said induction-coil, which circuit is normally open, and a rheotome arranged to rapidly make and break said circuit when said key is closed, and a receiving-instrument connected with the primary coil of an induction-coil, the secondary coil of which is connected with said line, whereby said receiving-instrument may be operated by a quantity-current of low tension to produce the practical equivalent of dots and dashes, or makes and breaks, of varying lengths, the dashes or makes longer than a dot being each formed by a series of rapidly-consecutive pulsations over the line, essentially as set forth.

LOUIS MAICHE.

Witnesses:

EUG. DUBUIL,
AUG. PARISOT.