

(No Model.)

F. W. JONES.
DYNAMO TELEGRAPHY.

No. 381,251.

Patented Apr. 17, 1888.

Fig. 1

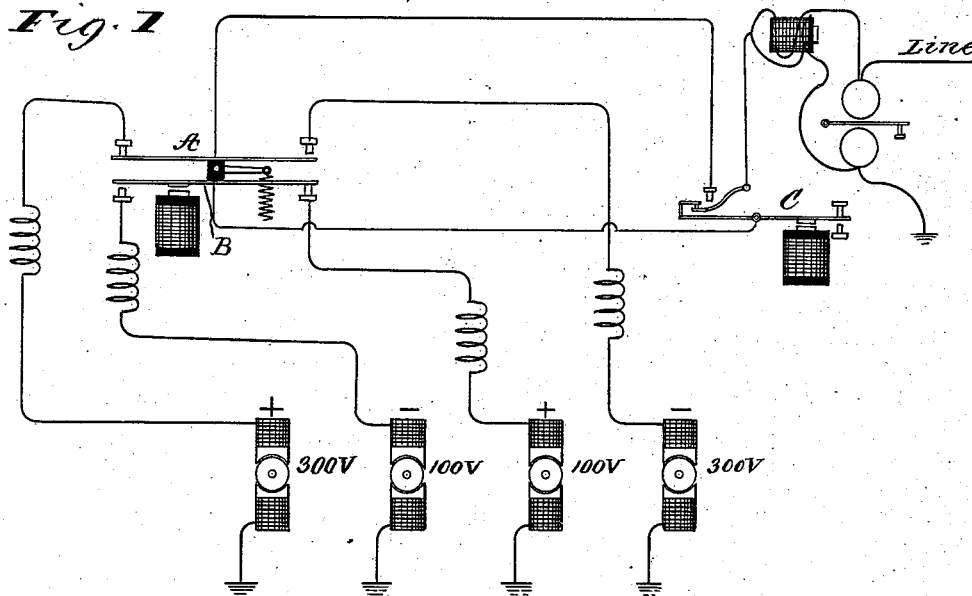
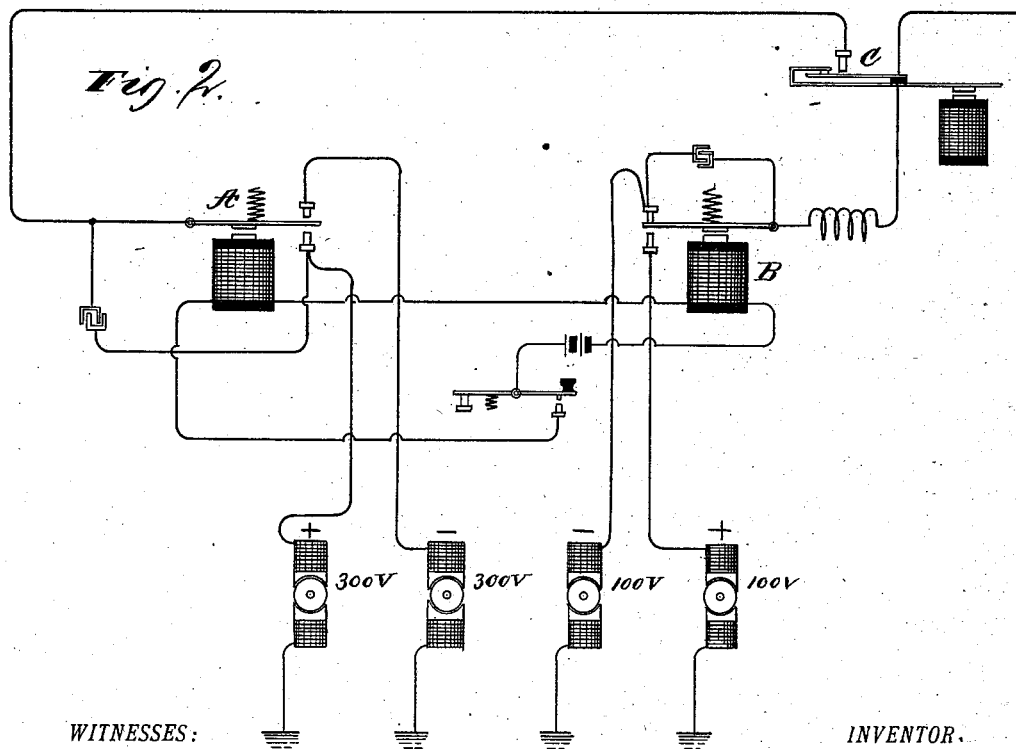


Fig. 2



WITNESSES:

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DYNAMO-TELEGRAPHY.

SPECIFICATION forming part of Letters Patent No. 381,251, dated April 17, 1888.

Application filed November 11, 1887. Serial No. 254,936. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS W. JONES, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Dynamo-Telegraphy, of which the following is a specification.

My invention relates to the key system of telegraphs, and is more especially designed for employment in duplex or quadruplex telegraphs where dynamo-machines or secondary batteries are employed as the source of electric energy.

The object of the invention is to provide a simple and effective arrangement of apparatus whereby the desired reversals of polarity and changes of tension may be produced on the line; and to this end it consists in the combination, with two simultaneously-operating two-point keys, each connected at its front and back contacts, respectively, with sources of different polarity, and governing, respectively, the flow of currents of different tension to line, of a two-point key interposed between the double key and the line, and having its front contact connected to one part of the doubly-acting key, while its other contact is connected to the other part of said key. The arrangement provides a means whereby two messages may be transmitted, one by changes of tension only, irrespective of reversals of polarity, and the other by reversals of polarity only, irrespective of changes of tension.

In the accompanying drawings, Figure 1 illustrates my invention diagrammatically, and Fig. 2 illustrates a modification of the double key.

A B indicate two key-levers, or keys having two contacts, closed separately and according to the position of the key, after the manner well understood in the art, one contact being technically the "front" and the other the "back" contact. The key-levers are insulated from one another, and are made to operate together or simultaneously by mounting upon a common support or center. In Fig. 2 the simultaneous action is obtained by working the two levers by magnets, both in the same local circuit, controlled by a key. Other

means might be employed. The lever A, when on its back contact, connects with a source of current of, say, positive polarity, and of, say, three hundred volts. Its front contact connects with a source of current of opposite polarity and substantially the same tension. This key, if connected directly to a circuit, would, when operated, simply produce reversals of current of a given tension.

Lever B has its front contact connected similarly to a source of current of positive polarity, but of a different tension from that with which lever A is connected. The back contact of B connects with a source of the same tension as its front contact, but of opposite polarity. This key would likewise serve, when connected directly to a circuit, to produce alternations of polarity in a current of given tension different from that controlled by A.

Key-lever A connects with the back or rest contact of a key, C, and lever B with the front or open contact of the same key. Key C is connected to the line. When it is at rest and the double key A B is operated, reversals of current take place, these reversals being reversals of a current whose tension is that of the lever B. When the key C is operated, the reversals will still take place, being now produced by the action of the lever A; but their tension is different, as before explained. The operator controlling transmitter A B may therefore continue to send his message by reversals of polarity, despite the movement of key C, and the operator controlling C may at pleasure vary the tension of the current for the purpose of sending his own message, the tension being dependent, obviously, upon which one of the parts of the other key is connected to the key C.

It is to be understood that the intervals between break of back contact and closure of front contact, and vice versa, with all the levers is very slight, or is practically nothing at all. This, in the case of currents from a dynamo, can be secured by giving the levers small play between their contacts or by the employment of continuity-preserving contacts, such as are well known in the art in connection with continuity-preserving duplex or quadruplex telegraph keys.

What I claim as my invention is—

The combination, with a transmitting device having two sets of front and back contacts, of two sources of electricity of substantially the same tension, but opposite polarity, whose connections with the circuit are governed, respectively, by one set of contacts, two other sources of current, also of opposite polarity, but of different tension from the first, similarly governed by the second set of contacts, and a second back and front contact transmitter that in its normal position closes the connection for

one set of contacts of the first transmitter, and when depressed breaks such connection and closes the connection for the other set, substantially as and for the purpose described. 15

Signed at New York, in the county of New York and State of New York, this 5th day of November, A. D. 1887.

FRANCIS W. JONES.

Witnesses:

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H. C. TOWNSEND.