(No Model.)

G. S. TIFFANY.

TELAUTOGRAPH.

No. 587,663. Patented Aug. 3, 1897.

Fig. 1

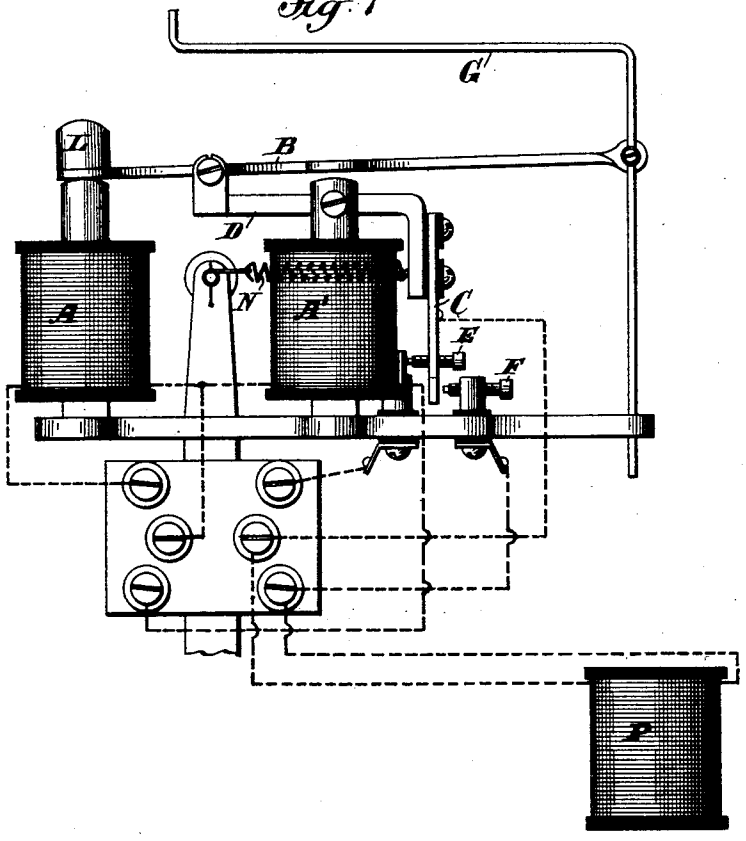
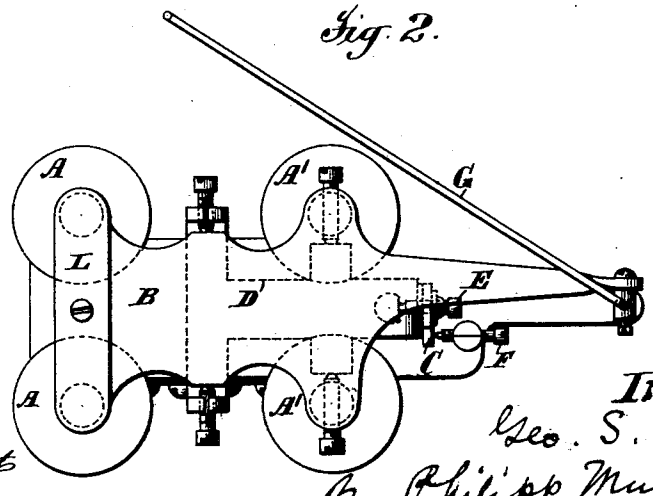


Fig. 2.



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UNITED STATES PATENT OFFICE.

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TELAUTOGRAPH.

SPECIFICATION forming part of Letters Patent No. 587,663, dated August 3, 1897.

Application filed June 7, 1895. Serial No. 551,946. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. TIFFANY, a citizen of the United States, residing at Highland Park, county of Lake, and State of Illinois, have invented certain new and useful Improvements in Telautographs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

My invention relates to improvements in telautographs of the type heretofore patented by Professor Elisha Gray and described in my application for Letters Patent No. 503,871; and it consists in particular of an improved device and arrangement of circuits for operating the pen-lifting and paper-feeding mechanism at the receiving instrument. It has been usual to employ two of the line-wires for operating these parts of the receiving instrument, and in order to perform the three operations of raising and lowering the transmitting-pen and feeding the paper two Morse relays have been used, one in each line, with local circuits, one of these relays being operated to raise the pen, one to lower the pen, and both together to feed the paper. It is the object of this invention to dispense with these relays and two of the local circuits and to perform two of these three operations over the two line-wires by means of direct currents, Figure 1 being a side elevation, and Fig. 2 a plan view, of my apparatus.

To this end I propose to use two magnets A and A′, one in each of the two line-circuits. These magnets are provided, respectively, with armatures mounted upon an armature-lever B, pivoted between the magnets and carrying the pen-lifter G, counterbalanced by a weight L. The armature-lever B is supported on a lever D, which, in turn, is pivoted and carries on its rear end a circuit-breaker in the circuit of the paper-feeding magnet P. This circuit-breaker consists of a metal piece C and the set-screw F. The set-screw E operates with the set-screw F to limit the motion of the lever B.

The operation of this device is as follows: When the operator at the transmitting-station puts his pen on the paper, he causes a strong current to pass through one of the line-wires and the magnet A′, while a weak current passes through the other of the two line-wires and the magnet A. When the magnet A′ draws down its armature, it tilts the lever D and allows the receiving-pen to descend to the paper. When the transmitting-operator raises his pen from the paper, the strong current is sent through magnet A and the weak through magnet A′, reversing the tilting of the lever B and the position of the receiving-pen with reference to the paper. During these operations the position of the lever D is not changed, being held in its original position by the pull of the back spring N. On shifting the paper the transmitting-operator throws simultaneously through both line-wires and magnets A A′ a strong current. It results that both of the armatures on the lever B are simultaneously pulled up, causing the lever D to tilt on its axis and completing the circuit of the paper-shifting magnet at the receiving instrument and shifting the paper.

It is obvious that the apparatus might be so modified that the make and break of the paper-shifting circuit should be operated by simultaneous deënergization of the magnets A and A′, as well as by their simultaneous energization, without departing from my invention.

I claim—

1. In a telautographic apparatus, the combination of two magnets one for raising and one for lowering the receiving-pen, a circuit maker and breaker controlled by said magnets when operated simultaneously, and a paper-feeding mechanism controlled by the said make and break, substantially as described.

2. In a telautographic apparatus, the combination of two magnets one for raising and one for lowering the transmitting-pen, an armature-lever provided with armatures for said magnets and carrying the pen-lifter, said armature-lever being pivoted upon and supported by a second lever carrying a make and break, and a paper-shifting magnet of which the circuit is controlled by said make and break, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE S. TIFFANY.

Witnesses:
THOS. N. WHEELWRIGHT,
ALFRED A. MOSES.