

(No Model.)

C. E. SCRIBNER.
MAGNETO ELECTRIC MACHINE.

No. 427,122.

Patented May 6, 1890.

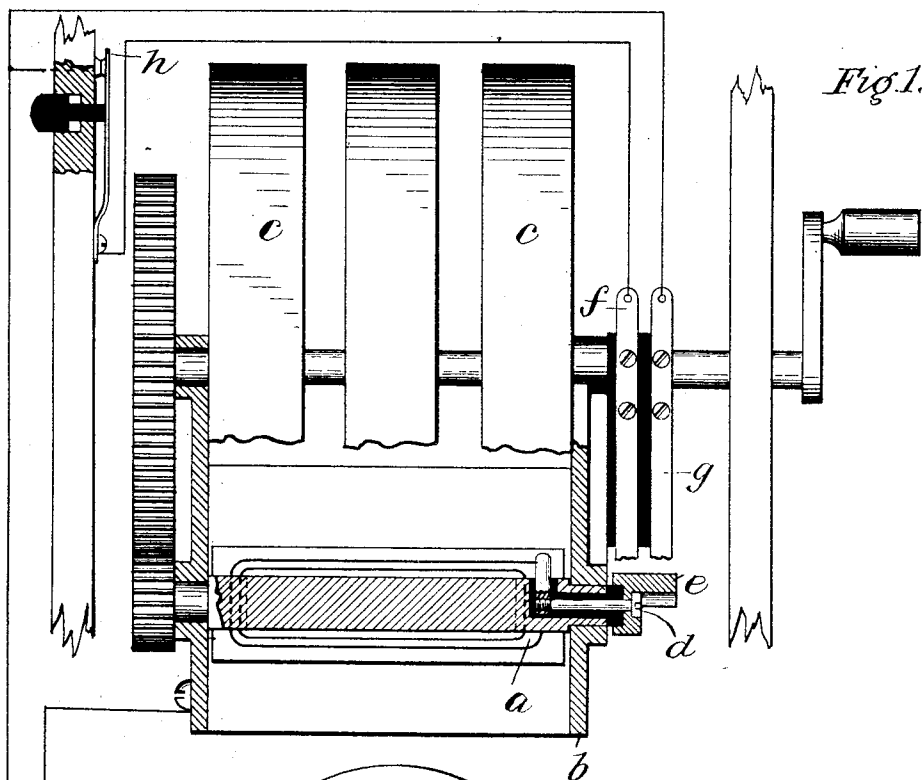


Fig. 1.

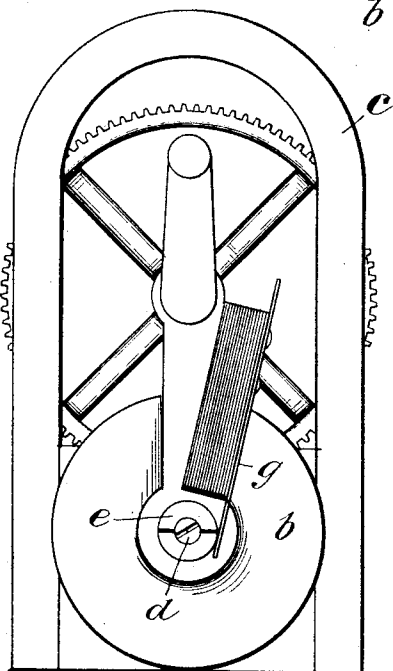


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES E. SCRIBNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

MAGNETO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 427,122, dated May 6, 1890.

Application filed December 27, 1886. Serial No. 222,709. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SCRIBNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Magneto-Electric Machines, (Case 132,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to magneto-electric machines, and its object is to enable the user to send current in reversals or intermittent current of one polarity, as he may desire.

As to the state of the art prior to my invention reference is made to Letters Patent to Carey, No. 310,379, granted January 6, 1885. In said patent an eccentric makes the connection with the spring to give the pulsations of one polarity, while in my case half of the commutator revolving under the spring accomplishes the same result, but in a more perfect and satisfactory manner. By providing a commutator which is connected with one end only of the wire upon the armature, and by placing in connection with that commutator two brushes, one of which is constantly in connection with the commutator and the other intermittently in connection therewith, I am enabled to collect either alternating currents or intermittent currents of one polarity. By means of a key connected with the circuit and having points which connect with one or the other of the brushes resting upon the commutator, I am enabled to send either current in reversals or intermittent current of one polarity by pressing the key into one position or the other. The arrangement of the key with the circuits is preferably such that one contact is required, the breaking of which or the closing of which will give me one current or the other.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a magneto-electric machine with the permanent magnets broken away to show the armature, which is in section. Fig. 2 is an end view of the same.

Like parts are indicated by similar letters of reference throughout the different figures.

The armature *a* is mounted upon its bear-

ings in the frame *b*, and may be driven by any suitable mechanism. I have shown a crank provided with a gear-wheel, which engages with a pinion upon the shaft of the armature. The armature is placed between the two poles of permanent magnets *c*, so that the current induced in the coil will be first of one polarity and then of the other as the armature revolves. One end of the coil of the armature may be connected permanently with the frame *b* through bearing of the armature. The other end of the coil is led out, preferably as indicated in Fig. 1, through the pin *d*, which is preferably countersunk in the commutator *e* and insulated from the armature, as shown. I provide two brushes *f* and *g*, which normally rest upon the commutator. I cut away about one-half of the portion of the commutator opposite brush *g*, and the commutator is so adjusted that current of one polarity only will be generated during the time that brush *g* is resting upon the remaining segment. The portion of the commutator opposite brush *f* will rest constantly thereon, and when connected to line-current generated in reversals by the armature will be sent by said brush to line. The brush *g*, as before stated, however, only comes in contact with the commutator during about one-half of its revolution, and it is during that portion of the revolution that current of one polarity is being generated. Therefore, when brush *g* only is connected to line, current of one polarity only will be sent to line, and this will be sent intermittently, since the circuit will be broken between the brush *g* and the commutator during about one-half of the revolution of the armature. Now by a circuit-breaker connected with these different brushes it is evident that current may be sent to line either of one polarity intermittently or current in reversals.

In magneto-electric machines used in connection with telephone call-boxes I prefer to connect the brushes to line in such manner that normally current in reversals will be sent to line. By providing a key to open the circuit between brush *f* and the line I am enabled to send current of one polarity only intermittently over the line. This key *h*, I have shown in Fig. 1 with a push-button for open-

ing the same. While the generator is in operation and the key *h* is closed, as shown, current will be sent in reversals over the line. It is unnecessary to disconnect brush *g*, since
 5 as long as the brush *f* is continuously connected with the commutator the two brushes *f g* will be in operation the same as a single brush. When, however, the connection with brush *f* is broken, no current will find
 10 circuit to line during one-half of the revolution of the armature, and during the other half of the revolution of the armature brush *g* only will be connected therewith, and hence current of one polarity only will be sent to
 15 line and this one polarity current will be sent intermittently.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

20 1. The armature of a magneto-electric machine and its coil, one end of which is connected permanently with the frame and the other connected with the commutator, in combination with the brushes resting upon the
 25 commutator, part of said commutator being about one-half cut away, and a circuit-break-

ing device in the circuit of one of the brushes, whereby current in reversals or intermittent current of one polarity may be sent to line, according to the position of the said circuit-
 30 breaking device, substantially as and for the purpose specified.

2. The combination, with the commutator of a magneto-generator, of two brushes, part of the commutator being about one-half cut
 35 away, one of the brushes resting against the commutator continuously and the other against the portion or half *e* thereof to form intermittent contact therewith, and circuit-connections from said brushes, the circuit from
 40 the brush in constant contact with the commutator, including a break-key, whereby currents in reversals or intermittent currents of one polarity may be collected from the com-
 45 mutator, as desired.

In witness whereof I hereunto subscribe my name this 16th day of November, A. D. 1886.

CHARLES E. SCRIBNER.

Witnesses:

GEORGE P. BARTON,
 WM. M. GILLER.