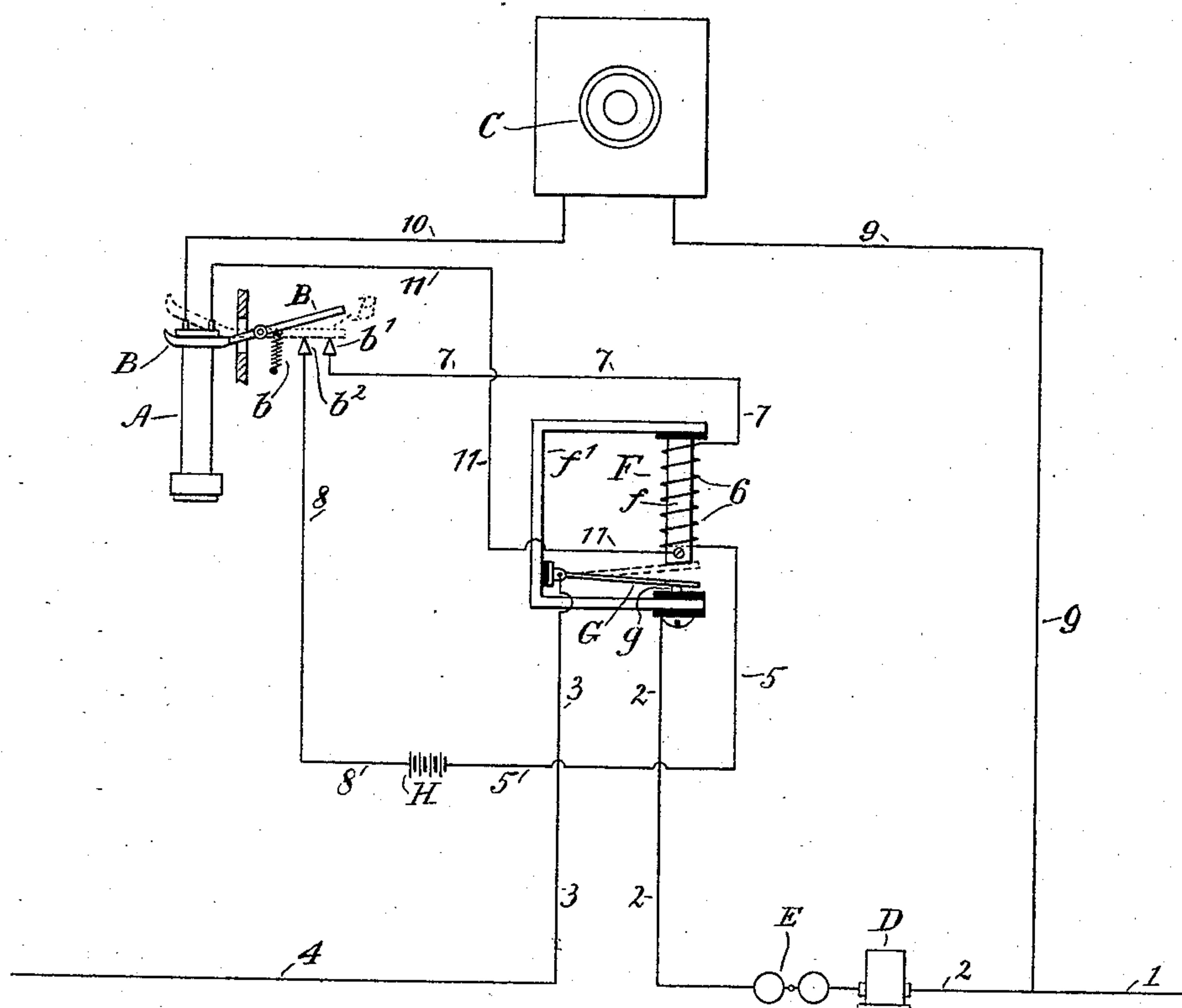


(No Model.)

H. T. JOHNSON.
TELEPHONE SWITCH.

No. 524,387.

Patented Aug. 14, 1894.



WITNESSES:

W. H. Shaw
J. B. Packard

INVENTOR,

Harry T. Johnson,

BY

Murphy & Metcalf,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HARRY T. JOHNSON, OF ELIZABETH, NEW JERSEY.

TELEPHONE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 524,387, dated August 14, 1894.

Application filed February 1, 1894. Serial No. 498,757. (No model.)

To all whom it may concern:

Be it known that I, HARRY T. JOHNSON, a citizen of the United States, and a resident of the city of Elizabeth, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Telephone Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to telephone systems or apparatus and the object thereof is the provision of means, actuated automatically by a circuit closing device, to maintain a circuit through the signaling apparatus when the telephone is not in use, and to open the circuit through the signaling apparatus when the circuit closing device or switch is moved.

A further object of my invention is the provision of means also actuated by the movement of a circuit closing device to open and close the telephone circuit.

To this end my invention consists in the combination and arrangement of circuits, circuit controlling devices and actuating mechanism hereinafter described and specifically pointed out in the claims.

The accompanying drawing shows the arrangement and connection of circuits and apparatus preferably employed by me in carrying out my invention.

In said drawing the telephone receiver A, which is of the usual construction, is shown supported upon a pivoted switch lever B.

C is the magneto telephone which I intend to employ instead of the microphone or other transmitter now generally used, although it is not intended to restrict my invention to any particular form of transmitting apparatus. The telephone C may be inclosed in a box similar in appearance to the transmitter box now in use.

The signaling apparatus consists preferably of a magneto generator D and a vibrating magneto bell E. An electro magnet F, the core *f* of which is of soft iron, is mounted in a suitable frame *f'*, and is provided with an armature G of conducting material pivoted to the frame *f'*. When the coils of magnet F are de-energized, the armature G rests upon

the contact point *g*. The magnet, armature and contact point are shown as insulated from the frame *f'*.

H represents a galvanic battery of any suitable description.

The operation of the devices just described and the arrangement of circuits which I have invented are as follows: When the receiver A is not in use, and is suspended from the switch lever B as shown, if the magneto or other generator employed at the opposite end of the line be operated, the current generated thereby will pass in through the line wire 1 to the wire 2, through the bell E (which will be rung thereby) to the contact *g*, through armature G and wire 3 (which is electrically connected thereto) and out through line wire 4 to the ground or return wire, as the case may be. As soon as the outer end of the switch lever B is relieved of the weight of the receiver A, it will under the action of spring *b*, rise sufficiently to bring the opposite end of the lever (which is of conducting material) into contact with the points *b'* *b*² (as shown in dotted lines) thereby establishing a local circuit from the negative electrode of the battery H, through the wire 5, coils 6 of magnet F, wire 7 to contact point *b'*, through switch lever B to contact point *b*², to wire 8, to the positive electrode of the battery. The energizing of the magnet coils upon the completion of the local circuit will cause the pivoted armature G to be drawn away from the contact point *g* and into contact with the pole of the magnet F (as shown in dotted lines). The circuit through the signaling apparatus will thus be broken and the line circuit established from the line wire 1, through wire 9, through the coils of the magneto telephone C, through wire 10 to a binding post on the receiver, through the coils of the receiver to the opposite binding post thereof, through wire 11 to the magnet core *f*, to the armature G and through wires 3 and 4 to the ground or return wire. When the receiver is replaced on its support, the inner end of the switch B will by the weight thereof be lifted from the contact points *b'* *b*², thereby rupturing the local circuit and de-energizing the magnet, which will cause the armature G to fall into

contact with the point *g*, breaking the line circuit through the telephones and re-establishing it through the signaling apparatus.

It is to be understood that my invention is
5 not limited to the specifically described or any special form or arrangement of contacts or circuit controlling devices, as many equivalent devices may be substituted therefor without in any manner departing from the
10 spirit of my invention.

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

1. In a telephone apparatus the combination of a circuit controlling device for making
15 and breaking the circuit through the signaling apparatus, a local circuit, independent of the line circuit, for actuating said circuit controlling device, and a switch or circuit controller actuated by the movement of the telephone receiver to make and break the local
20 circuit, substantially as shown and described.

2. The combination of the line circuit, a signaling apparatus included therein, a make
25 and break device in the line circuit, a magnet

for actuating the make and break device to cut out the signaling apparatus, a local circuit including the magnet coils and a switch or circuit closer actuated by the movement of the telephone receiver to make or break
30 the local circuit, substantially as described.

3. In a telephone apparatus the combination of a circuit controlling device for establishing the line circuit through the telephone, a local circuit for actuating said circuit controlling device, and a switch or circuit controller actuated by the movement of the telephone receiver to make and break the local
35 circuit, substantially as shown and described.

4. In a telephone apparatus, the combination of a circuit controlling device for breaking
40 the circuit through the signaling apparatus and establishing it through the telephone, a local circuit for actuating said circuit controlling device, and a switch for the
45 local circuit, substantially as described.

HARRY T. JOHNSON.

Witnesses:

S. G. METCALF,
W. W. SHAW.