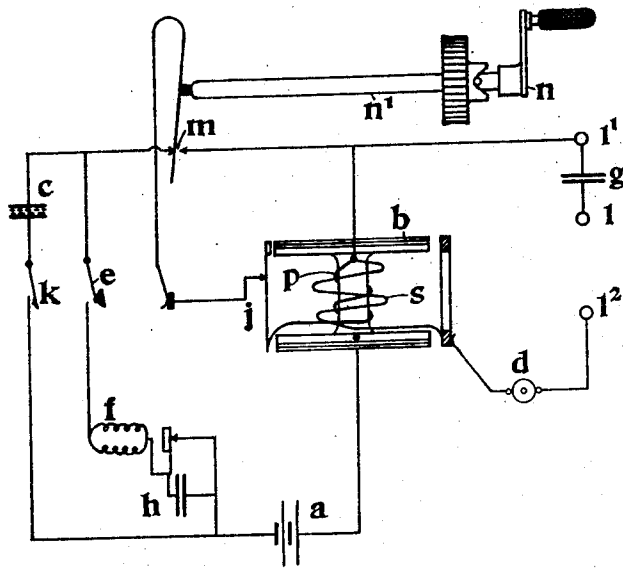


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FIELD TELEPHONE AND TELEGRAPH.
APPLICATION FILED DEC. 4, 1917.

1,274,857.

Patented Aug. 6, 1918.



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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK PATTISON CORK, a subject of the King of Great Britain and Ireland, residing at The Hollies, Audley, Newcastle, Staffs, England, have invented certain new and useful Improvements Relating to Field Telephones and Telegraph, of which the following is a specification.

10 This invention relates to telephones and has for its particular purpose to provide a portable ringing telephone with "buzzer" for calling up or for the transmission of Morse signals.

15 The invention is of general application and is of special utility for use in the field.

According to the invention the primary and secondary circuits are wound upon the armature of the magneto to form an induction coil for speaking or "buzzing", the arrangement being such that in ringing up the distant station the primary circuit is completed and the primary current generated by rotation of the primary coil in the magnetic field, whereby alternating currents are induced in the secondary circuit and go out into the line.

The invention comprises the features which are hereinafter described.

30 The invention is illustrated in the accompanying diagrammatic drawing which represents an equipment which may be mounted within a suitable casing of wood or leather capable of being conveniently carried over the shoulder or in the hand.

35 The equipment comprises a number of cells *a*, a magneto *b*, a microphone *c*, a receiver *d*, a key *e*, an interrupter *f*, a line condenser *g*, a condenser *h* for the contact breaker, an armature make-and-break *j*, a micro-switch *k*, a ringing switch *m*, and a ringing handle *n*.

40 In operation when "ringing up" the handle spindle *n*¹ moves to the right and cuts out the battery circuit, closes the primary circuit and as the armature revolves the blade of the contact breaker *j* is pulled over by the cheek end of the armature and breaks the circuit and is adjusted to act as the winding cuts the maximum lines of force.

This takes place twice per revolution and a current in the secondary circuit is thus induced which passes through the receiver *d* to line *l*¹ *l*² or *l* and *l*². When speaking the spindle returns and completes the circuit 55 through the microphone and primary winding, the switch *k* being closed. The induced current in the secondary circuit passes to line through the slip ring and the receiver *d* to *l*¹ and *l*² or *l* and *l*² through the condenser *g*. 60

When "buzzing" the key *e* is used whereby the current is made through the vibrating contact breaker *f* which is in series with the battery and primary coil *p*. This induces 65 currents in the secondary circuit *s* which pass to the line through the slip ring and receiver to *l*² and *l*¹ or *l*² and *l* through the condenser *g*. The contact breaker *j* does not act when the key *e* is pressed but only 70 the interrupter *f* which is mounted outside the casing where it can be easily adjusted. The condenser *h* is in shunt with the contacts of the circuit breaker *f*.

I claim:

1. In a portable telegraph and telephone instrument, in combination, a magneto, means connected with said magneto to close a circuit through the primary coil of the magneto, whereby signal impulses induced 80 in the secondary coil are sent through a line, a buzzer, a telephone, and switches whereby communication may be established through either the buzzer or the telephone.

2. In a portable field instrument, in combination, a buzzer, a transmitter, and a magneto, means for sending a signal by the magneto to a distant observer, and switches whereby either the transmitter or the buzzer may be used to send messages. 85

3. In a portable telegraph and telephone instrument, in combination, a transmitter, a switch to connect it with the line, a buzzer a switch to connect it with the line, whereby either the buzzer or the transmitter may be 90 switched into circuit for communication, a magneto, and means whereby the magneto may be made to induce currents through the line for signaling.

FRANK PATTISON CORK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."