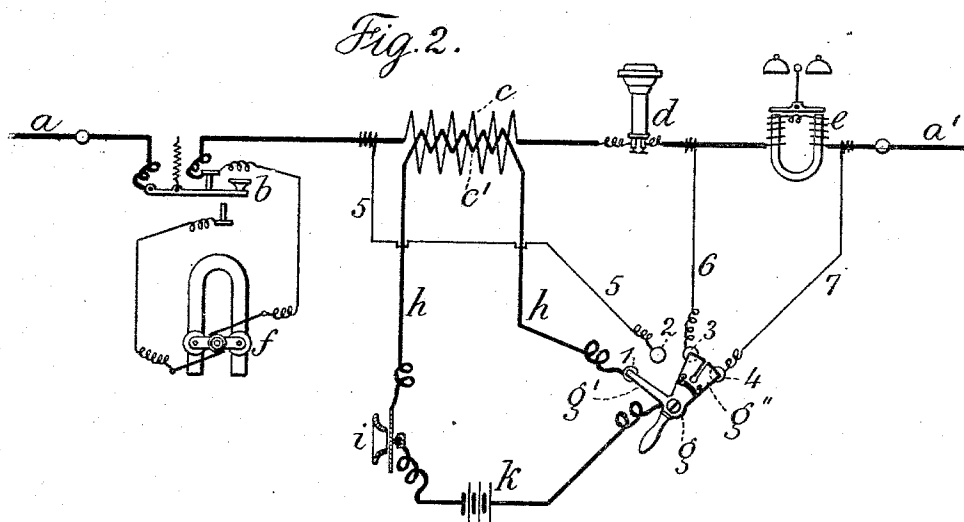
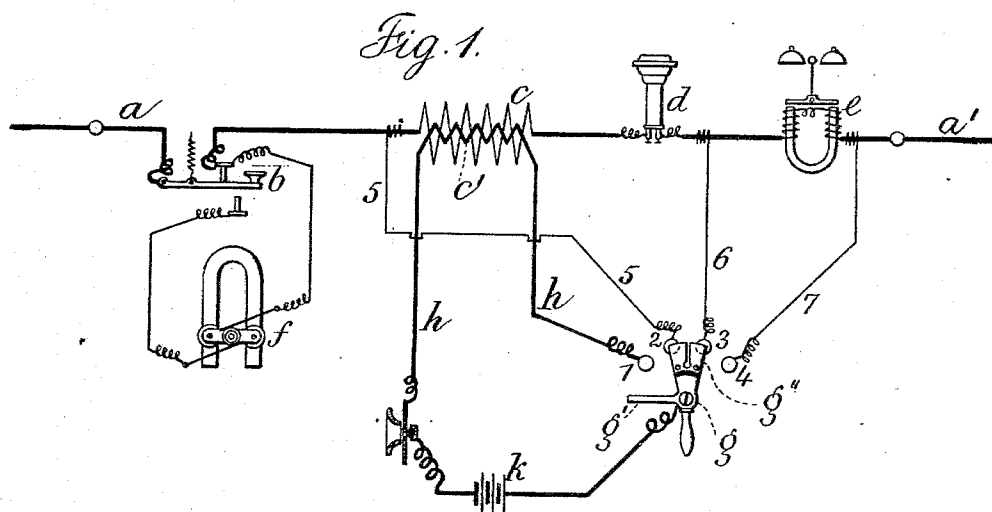


(No Model.)

J. PIEL.
TELEPHONE SYSTEM.

No. 563,614.

Patented July 7, 1896.



Witnesses:
J. Staib
Chas. H. Smith

Inventor:
Jean Piel
by L. W. Serrell & Son
attys

UNITED STATES PATENT OFFICE.

JEAN PIEL, OF NEW YORK, N. Y., ASSIGNOR TO FREDERICK PEARCE, OF
SAME PLACE.

TELEPHONE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 563,614, dated July 7, 1896.

Application filed April 13, 1896. Serial No. 587,244. (No model.)

To all whom it may concern:

Be it known that I, JEAN PIEL, a subject of the Emperor of Germany, residing at New York, in the county and State of New York, have invented a new and useful Improvement in Telephone Systems, of which the following is a specification.

This invention consists in introducing into the main line the secondary of an induction-coil, the telephone-receiver and the call-bell in series and in combination therewith, a switch and wires therefrom to the main line for shunting either the secondary of the induction-coil and the telephone-receiver when the switch is in the position of rest, the line being thus prepared for call, or the call-bell when the switch is moved to the other position, thus preparing the line for talking service.

In the drawings, Figure 1 is a diagram of the parts in my improved system in the position preparatory to sending a call by sounding the bell or by operating another signaling device, and Fig. 2 is a similar diagram with the parts in the position for speaking over the line.

The main line is represented at *a* and *a'*, the key of ordinary or usual construction at *b*, and *c* represents the secondary and *c'* the primary of an induction-coil. The telephone-receiver is represented at *d*, and the call-bell at *e*. These parts are also of usual and well-known construction. The key *b*, the secondary *c* of the induction-coil, the telephone-receiver *d*, and the call-bell *e* are all in the main line.

f represents a current-generator, which may either be a magneto-generator or a battery. The switch is provided with adjacent contacts 1 2 3 4.

g'' represents an insulated metallic piece upon the switch *g g'* to engage the adjacent contacts 2 and 3 or 3 and 4, and wires 5 6 7 extend from these contacts to the main line in the manner shown.

h represents a circuit which includes the primary *c'* of the induction-coil, the telephone-transmitter *i*, and the battery *k*, and one end

of the circuit *h* connects with the contact 1 and the other with the switch *g g'*.

Referring now to Fig. 1, a call comes over the main line from a distant instrument and passes chiefly along the path of least resistance from the main wire *a* by the wire 5 to the contact 2, by the metallic piece *g''* to the contact 3, by wire 6 through the call-bell to the main wire *a'*. The call is sent in at the distant station in the well-known manner by pressing the key *b* and thus bringing the generator *f* into the line. After the call has been given, and to bring the parts into the proper relation for speaking, the switch *g g'* is moved from the position shown in Fig. 1 to the position shown in Fig. 2, and the shunt 5 2 3 6, around the secondary of the induction-coil and the telephone-receiver, is taken off and the shunt 6 3 4 7 is put on around the call-bell, so that an electric current coming over the main line *a* from a distant station passes through the secondary *c* of the induction-coil, through the telephone-receiver *d*, and chiefly by the wire 6, contact 3, piece *g''*, contact 4, and wire 7 to the main wire *a'*. In this position of the parts the telephone-receiver *d* will reproduce the message from the distant station, and the closing of the primary *c'* of the induction-coil through *h*, *i*, *k*, *h*, *g*, *g'*, and contact 1 will allow of sending a message to the distant station. The parts are brought to their normal position by moving the switch back into the position shown in Fig. 1.

I claim as my invention—

In a telephone system, the combination with the secondary of an induction-coil, the receiver and the call-bell or other signaling instrument in the main line, of a switch and wires therefrom to the main line for shunting either the secondary of the induction-coil and the receiver or the call-bell or other signaling instrument, according to the position of the switch, substantially as set forth.

Signed by me this 9th day of April, 1896.
JEAN PIEL.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.