

(No Model.)

2 Sheets—Sheet 1.

C. E. SCRIBNER.
VILLAGE TELEPHONE SYSTEM.

No. 543,106.

Patented July 23, 1895.

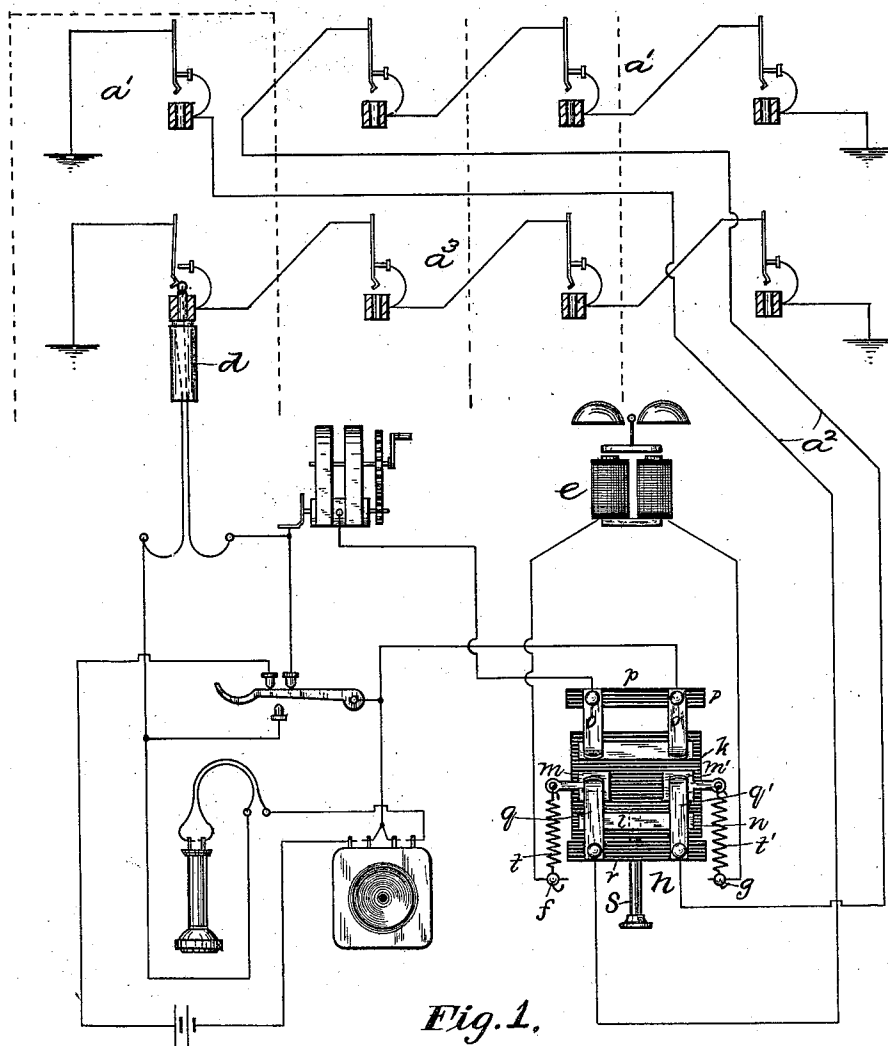


Fig. 1.

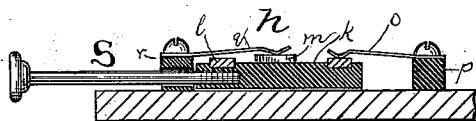


Fig. 2.

Witnesses:

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Chas. C. Woodworth

Inventor:

Charles E. Scribner.
By George H. Barton
Attorney.

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2 Sheets—Sheet 2.

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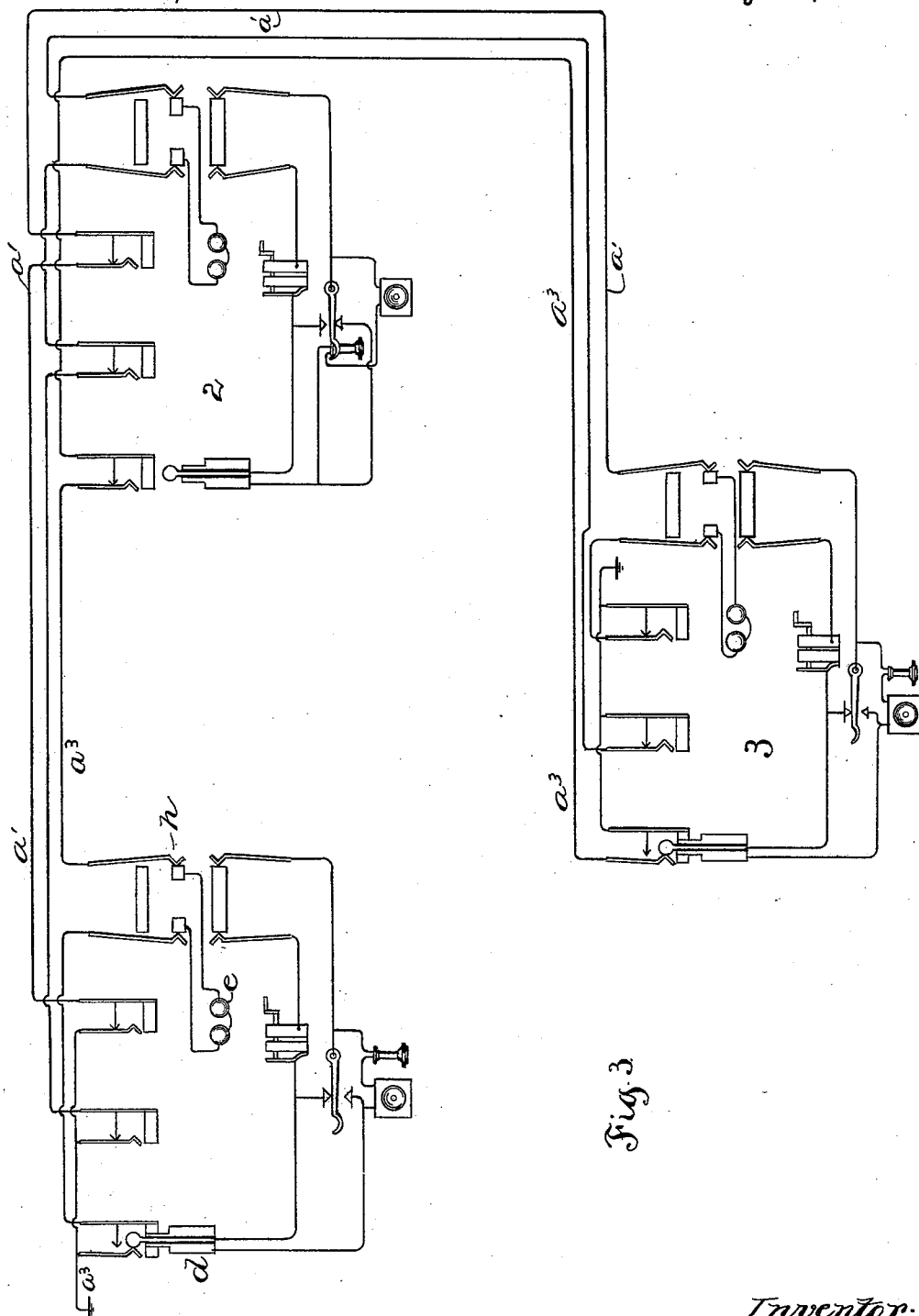


Fig. 3

Witnesses
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UNITED STATES PATENT OFFICE.

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

VILLAGE TELEPHONE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 543,106, dated July 23, 1895.

Application filed July 2, 1886. Serial No. 206,978. (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 Village Telephone Systems, (Case No. 103,) 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 telephone systems, and is especially designed for use in towns where there are not enough subscribers to make it profitable to employ an operator to do the switching.

No central-office switchboard is employed in my system, but the outfit at each station is so arranged that any subscriber may connect with any of the lines.

My invention consists in the circuits, signaling apparatus, and switching apparatus, whereby a subscriber may while signaling temporarily introduce his bell into the line of any other subscriber, said bell being automatically brought again into its own circuit after the signal has been sent, so as to be in position to respond to any other call.

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

Figure 1 is a diagram illustrative of the circuits of two telephone-lines, the telephone outfit of one of said lines being shown in detail, dotted lines indicating that the stations represented by the switch-sockets are separate. Fig. 2 is a sectional view of the switch for temporarily including the subscriber's bell of any station in the circuit of any other of the lines passing through said station. Fig. 3 is a diagram illustrative of the circuits between three subscribers' stations.

At each station I provide a separate loop-spring-jack switch for each telephone-line of the system. By means of a loop-plug inserted in the proper switch the telephone outfit at any station may be looped into any one of the lines.

The circuits and connections of the bell at each station are so arranged that the bell will normally be included in the circuit of the particular line upon which calls are sent to the particular station. By means of a loop-

switch this bell may be brought temporarily into the circuit of any other line with which the outfit may be connected, so that calls may be sent and received over said other line.

In Fig. 1 the line a' is shown grounded at its different ends, the telephone outfit being connected therewith by the loop a^2 . This outfit consists of the loop-plug d , which is shown inserted in the spring-jack switch of the line a^3 , the bell e , and the loop-switch h for disconnecting bell e from its normal circuit with loop a^2 , so that it may be temporarily included in the circuit of any other line with which plug d may be connected. The telephone, the transmitter, the telephone-switch, and generator of the outfit require no special description. The subscriber at station of line a' by simply inserting the plug d of his outfit in the spring-jack switch of another line passing through his said station may loop the two lines together. Thus line a' and line a^3 are shown looped together by the loop-plug d , inserted as shown. In Fig. 3 at station 1, I have shown the plug d of said station inserted in the switch of said line a^3 , which is the position assumed at station 1 when a call has been sent from some other station to said station 1. In this instance it is assumed that the subscriber at station 3 has called up station 1, and stations 1 and 3 are thus shown telephonically connected.

It will be observed that by pushing up the handle of loop-switch h the bell e may be disconnected from its normal connection with the loop a^2 of line a' , and included temporarily in the circuit of any other line with which plug d may be connected—as, for example, with line a^3 . As shown in Fig. 1, the loop-switch h is in position to bring bell e into the circuit of line a' . This loop-switch may be placed upon the lid of the box or in any other convenient position.

It will be seen that the sliding piece k of the switch may consist of a piece of rubber or other insulating material, on which are placed the contact pieces $l, m, m',$ and n . The springs o, o' mounted on the rubber strip p are looped into the circuit of the generator. The springs q, q' are looped into the circuit of the line a' . These springs are mounted upon the rubber strip r , which is provided

with a hole which serves as a guide for the handle *s*, which is connected with the slide *k*. The slide is held down in the position shown by the spiral springs *t t'*. In the position shown, *o o'* rest upon the metallic strip or contact-piece *l*, thus closing the loop containing the generator. The springs *q q'* rest upon contact-points *m, m'* respectively, thus bringing the bell into the circuit of the line *a'*.
It will be understood that at each subscriber's station is placed a spring-jack switch of each of the other lines of the system, as shown in Fig. 3.

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

1. Telephone lines each extending to each of several stations, each of said stations including an outfit consisting of a telephone set, a bell and loop switch therefor, the said loop switch normally bringing said bell into the circuit of the particular line of the station, in combination with a looping device connected with the bell and its switch at each station, whereby the bell of any station may be temporarily included in the circuit of any line of the station other than the one in which the bell is normally included.

2. The combination, with telephone lines, each including normally the bell of one or more stations and each line connecting with a different loop spring jack switch at each station, of a loop switch and calling apparatus at each station whereby the bell may be disconnected from the line in which it is normally included and brought into the circuit of either of the other lines and any station of the system put into telephonic communication with any other station.

3. The combination with a number of telephone lines extending to a sub-station, of a bell normally in circuit with one of said telephone lines, a generator at said substation adapted to be looped into circuit with any one of said telephone lines, and a switch for moving said bell from the line with which it is normally in circuit, and for connecting said bell in circuit with said generator; substantially as described.

In witness whereof I hereunto subscribe my name this 21st day of June, A. D. 1886.

CHARLES E. SCRIBNER.

Witnesses:

GEORGE P. BARTON,
JOSEPH S. KENNARD, Jr.