

No. 783,354.

PATENTED FEB. 21, 1905.

J. M. BEEVER.
TELEPHONE SWITCH.

APPLICATION FILED APR. 20, 1903.

2 SHEETS—SHEET 1.

Fig. 1

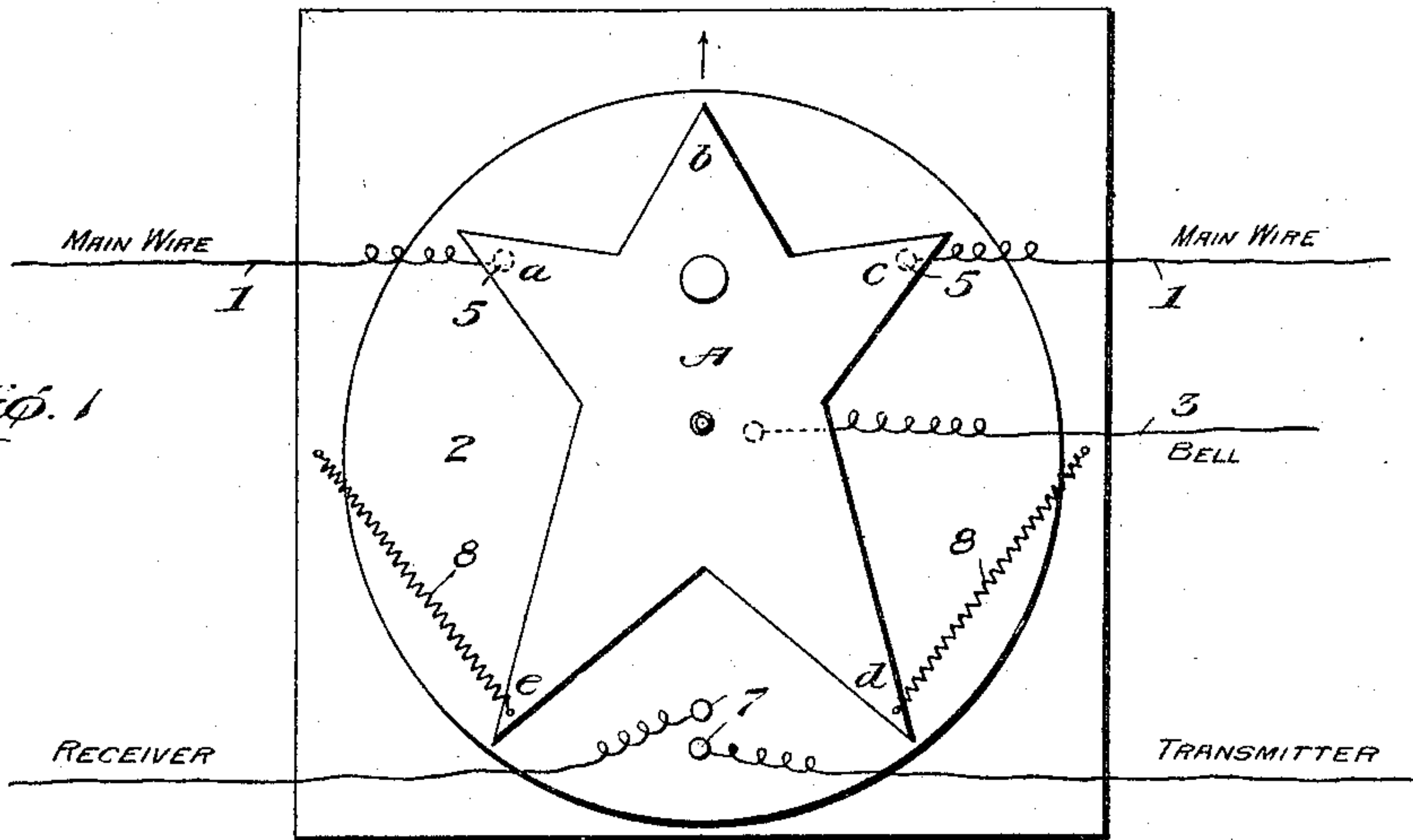


Fig. 2.

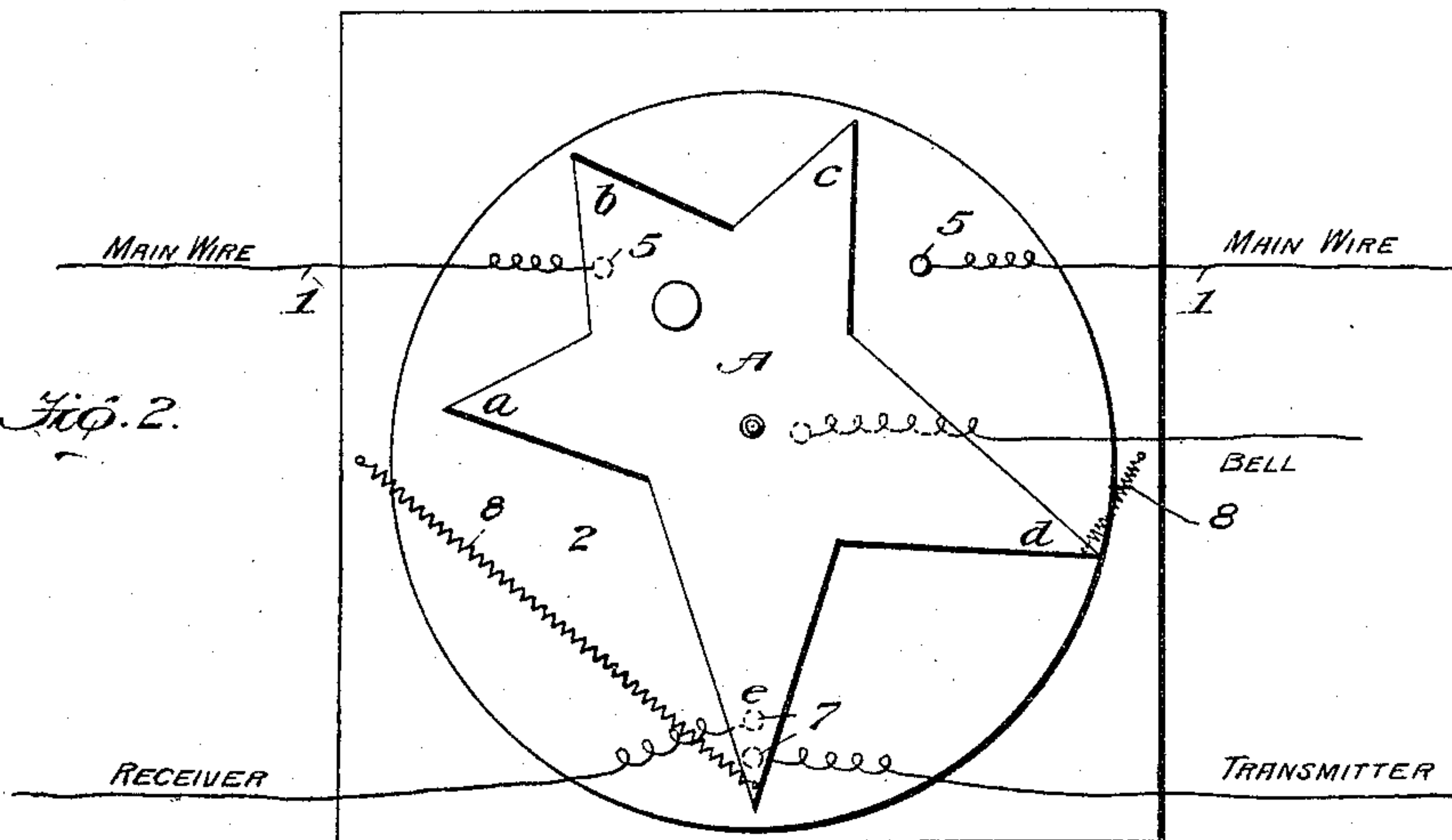
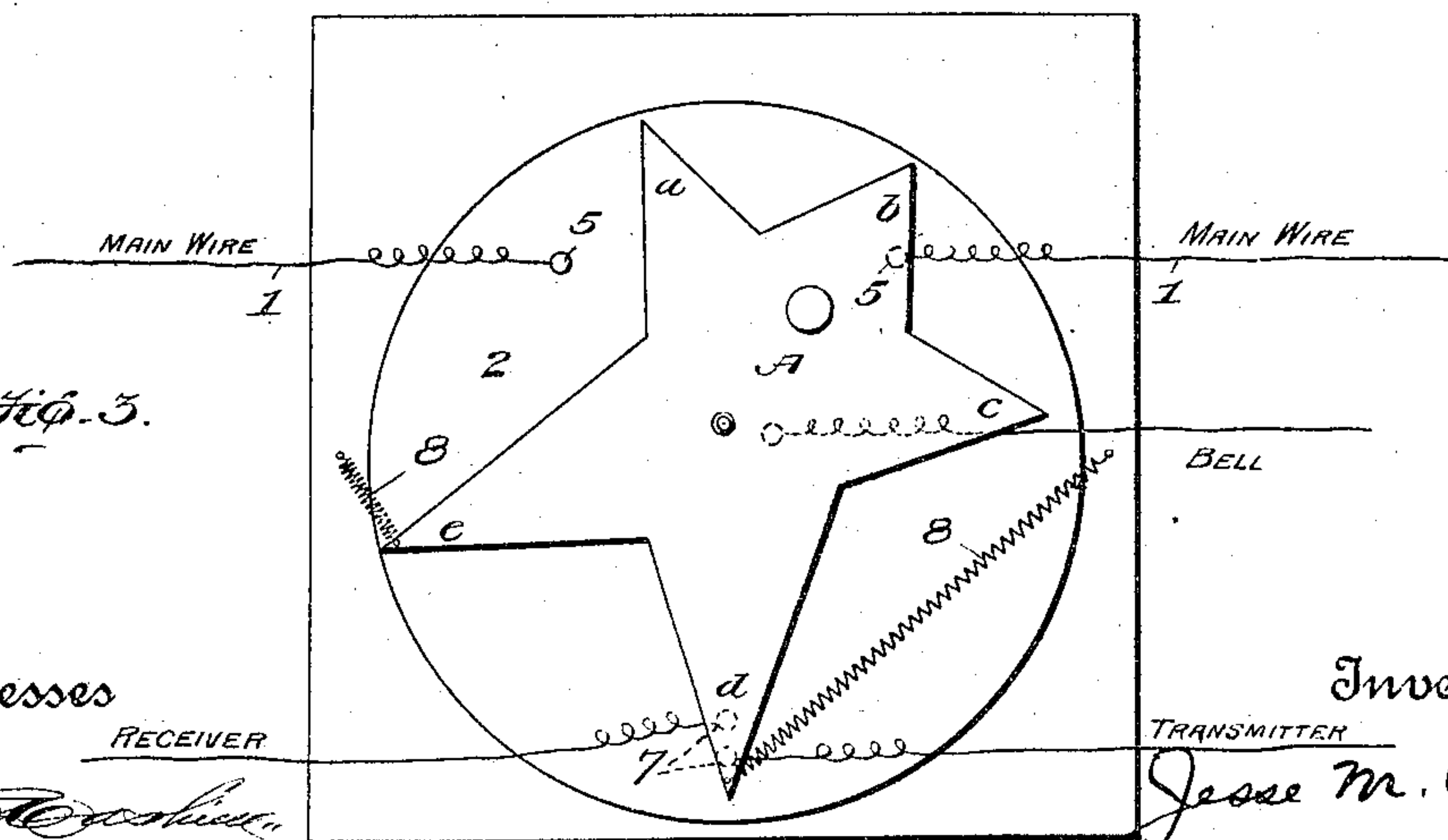


Fig. 3.



Witnesses

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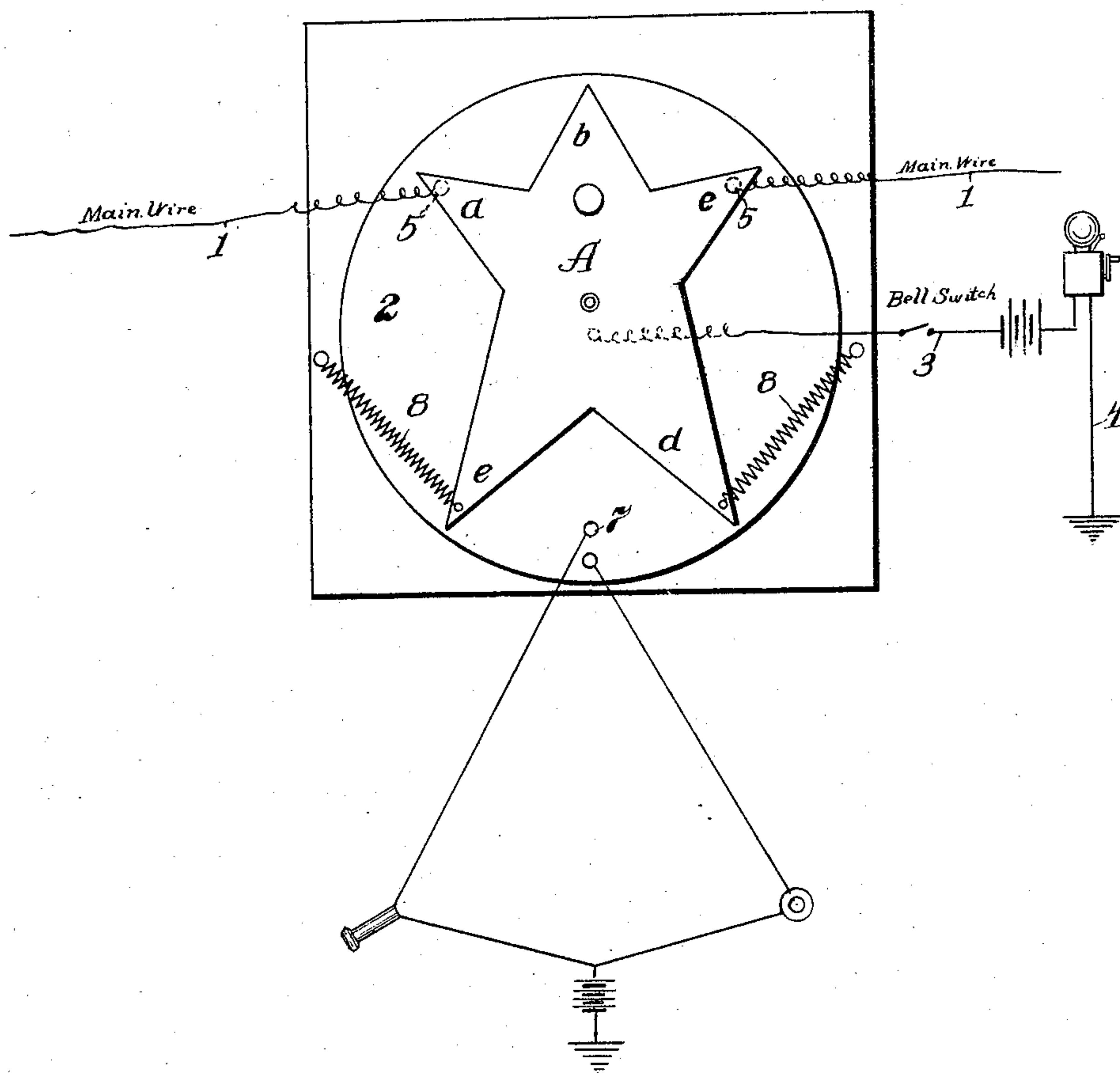
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2 SHEETS—SHEET 2.

Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JESSE M. BEEVER, OF EFFINGHAM, ILLINOIS.

TELEPHONE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 783,354, dated February 21, 1905.

Application filed April 20, 1903. Serial No. 153,490.

To all whom it may concern:

Be it known that I, JESSE M. BEEVER, a citizen of the United States, and a resident of Effingham, in the county of Effingham and State of Illinois, have invented a new and useful Improvement in Telephone-Switches, of which the following is a specification.

My invention relates to an improvement in telephone-switches; and the object may be said to be the provision of means whereby subscribers on a party-line may prevent "eaves-dropping," so to speak, of others on the same line who it is not intended should overhear the conversation, either by design or by accident; and my invention contemplates cutting out all parties at one end of the line or on one side of the subscriber using the telephone and the breaking of the circuit if a listener on the other side attempts to use his phone.

With these objects in view my invention comprises a switch-dial of peculiar construction rotatably pivoted with relation to the line-wires and in electric circuit whereby its change of position controls the line or current, closing or breaking the circuit, as the intention may be.

It further consists in certain details and arrangement of mechanism, which will be fully described hereinafter and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved switch, showing it in its normal position. Fig. 2 shows the switch turned so that all on the right of the subscriber are cut out. Fig. 3 is a view showing the switch turned to the right or the reverse position with all the subscribers on the left hand cut out, and Fig. 4 is a plan view showing the manner of connecting the receiver and transmitter and the bell-circuit with the switch.

A represents the switch. It is preferably made of copper and substantially star-shaped and is pivotally mounted at or near its center on the plate 2, which may be of wood with suitable insulations or of non-conducting material, such as glass, porcelain, or the like. The star-shaped switch preferably has five points *a*, *b*, *c*, *d*, and *e* at suitable predetermined distances apart and adapted to serve

as contacts for opening and closing the circuits. The bell and ground wires 3 and 4, respectively, are connected with this switch, and the main-line wire 1 1, which is cut in two, has its terminals 5 5 connected with plate 2 by suitable insulating material, if necessary, or not, accordingly as the material of which plate 2 is made is of conducting or non-conducting material. These terminals 5 5 are spaced apart, so that the points *a* and *c* will connect them when the switch is in its normal position, thus closing the main line, springs 8 8 being employed to normally cause and maintain this position of the switch, so that when a subscriber has finished with his instrument the switch will resume this position, closing the main circuit to permit its use by other subscribers. The receiver and transmitter circuit is connected with the base-plate 2 at 7, where it is engaged by one or the other of the contacts *d* or *e*, accordingly as the switch is turned to the right or to the left. Of course it is understood that this switch must be placed between the bells and transmitter and receiver.

In the operation of this switch it will be observed that only the two subscribers in conversation with each other can hear the conversation, as it is necessary that all intermediate switches should be in their normal positions during such conversation in order to connect the main line. Therefore the moment an intermediate subscriber attempts to listen to the conversation it necessitates turning his switch away from the normal position, which immediately breaks the circuit and stops the conversation. Suppose a subscriber desires to converse with another somewhere at his right. He would turn his switch to the right, as indicated in Fig. 3, making contact with the points *b* and *d* of his switch between the main line and the transmitter and receiver currents, thus cutting out all subscribers to the left. Should he desire to talk to somebody to the left of him, he would turn his switch as indicated in Fig. 2, cutting out all subscribers to the right. In other words, the turning of the switch breaks the main line and closes the circuit of the transmitter and receiver with the section of the line to the

right or to the left, according to the position to which the switch is turned, and as it is necessary that all switches between the parties conversing should be in their normal positions the moment one is turned it breaks the connection and stops the conversation, so that no unauthorized person on the line can hear. In brief, the subscriber turns his switch A in one or the other direction to cut out a portion of the line entirely and then rings the bell a number of times to indicate the subscriber whom he desires to answer the telephone. That subscriber then turns his switch to cut out all of that portion of the line except that between himself and the party calling him up. Should any one on that portion of the line between the two subscribers turn his switch A either to call up a subscriber or to listen to conversations over the wire, the circuit will immediately be broken, and the conversing subscribers are thereby notified of the interruption. This switch is of course particularly designed for use in rural communities where no central station is established. As soon as the subscribers have completed their conversations the switches A A are automatically returned to normal position by means of springs 8 8 to complete the entire main-line-wire circuit.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. A telephone-switch comprising a suitably-mounted non-conducting plate, main-line-wire terminals thereon, a movable conducting member located on the non-conducting plate, receiver and transmitter terminals located on the non-conducting plate, means for normally retaining the movable conducting member in engagement with the main-line-wire terminals and out of engagement with the receiver and transmitter terminals to complete the main-line-wire circuit, the conducting member when moved adapted to engage and connect the receiver and transmitter terminals through itself with one or the other of the main-line-wire terminals.

2. A telephone-switch comprising a non-conducting plate, receiver and transmitter terminals on the plate, independently-located main-line-wire terminals on the plate, a movable member of conducting material secured to the plate, a bell-circuit terminal in constant engagement with the movable member, the movable member normally adapted to connect through itself the independent main-line-wire terminals and the bell-circuit terminal

and means for moving the conducting member to connect one or the other of the main-line-wire terminals with the receiver and transmitter terminals.

3. In a telephone system, the combination with a divided main-line wire, of a non-conducting plate, the separate independent terminals of the line-wire secured on the plate, receiver and transmitter terminals carried by the plate, a bell-circuit terminal located on the plate, a switch movably mounted on the plate, the switch in constant contact with the bell-terminal, normally in simultaneous contact with each of the main-line-wire terminals and out of contact with the receiver and transmitter terminals, the switch capable of connecting either terminal of the main-line wire with the receiver and transmitter terminals, and a pair of springs, the adjacent ends of the springs secured to the switch, the springs extending oppositely to one another and secured at their outer ends, the springs automatically returning the switch to normal position.

4. In a telephone system, the combination with a divided main-line wire, of a non-conducting plate, separate main-line-wire terminals mounted on the plate, a rotary conducting-switch pivoted upon the plate, the switch adapted to normally engage and connect solely through itself the isolated main-line-wire terminals, receiver and transmitter terminals mounted on the plate, the switch normally remaining out of engagement with the last-named terminals, and a plurality of oppositely-extending springs, the adjacent ends of which are secured on opposite sides of the median line of the switch, the outer ends of the springs suitably secured to retain the latter under slight tension.

5. In a telephone system, the combination with a divided main-line wire, of a non-conducting plate, main-line-wire terminals mounted thereon, receiver and transmitter terminals likewise mounted on the plate, a switch having a serrated edge movably supported on the plate, the switch normally engaging the main-line-wire terminals to the exclusion of the receiver and transmitter terminals to complete the main-line-wire circuit through itself, and projections on the switch adapted to engage the receiver and transmitter terminals to complete a talking-circuit with one main-line-wire terminal only, the receiver and transmitter terminals normally lying between the projections.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JESSE M. BEEVER.

Witnesses:

FRANCIS I. STALLINGS,
B. G. ENSIGN.