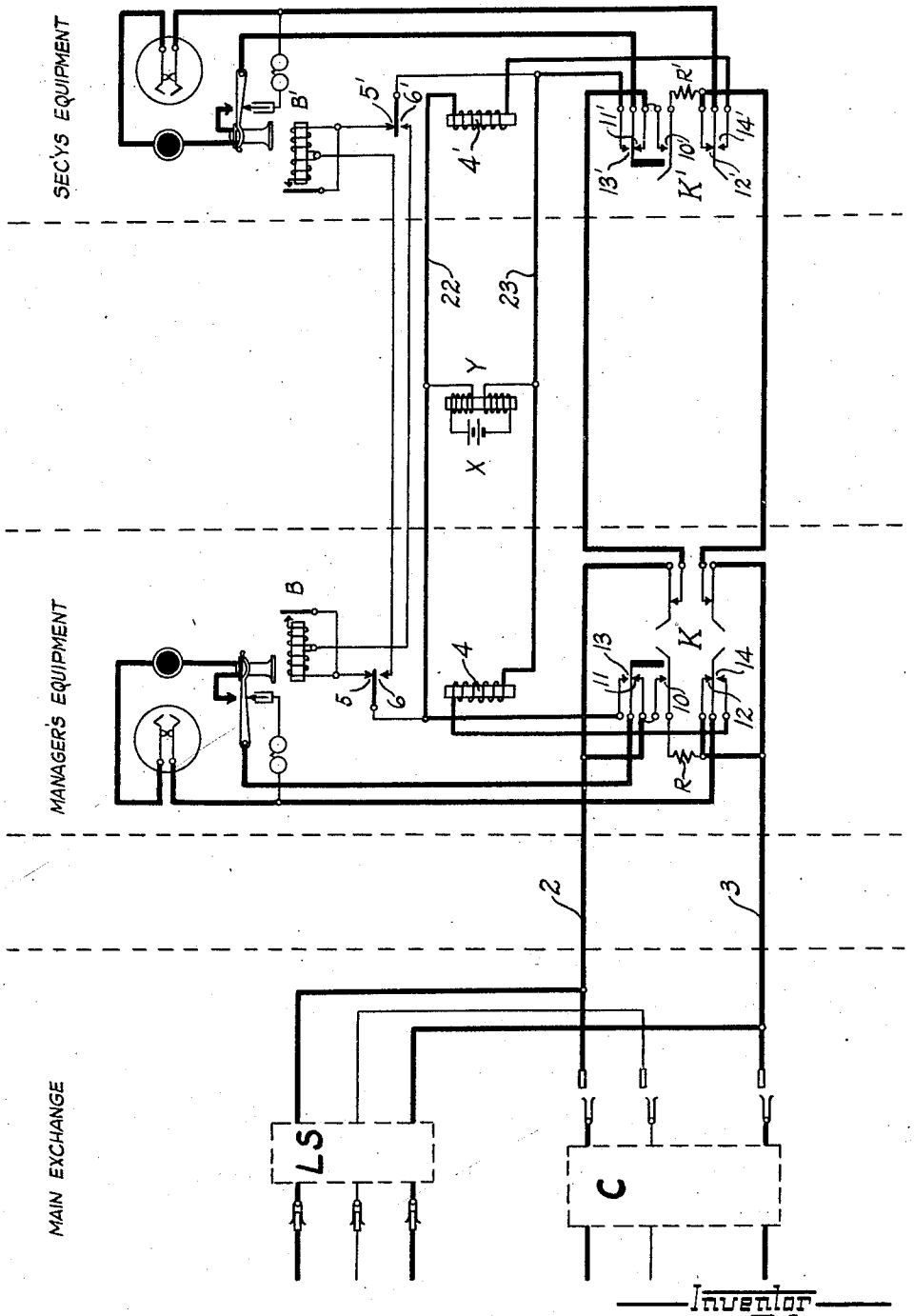
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SECRETARY SERVICE FOR TELEPHONES

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SECRETARY SERVICE FOR TELEPHONES

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This invention relates to telephone systems in general, but is more particularly concerned with "secretary service" equipment, that is, equipment by which calls to one person may be answered by his secretary from her telephone.

In business offices and the like, various arrangements are employed whereby calls to the officials may be answered by their secretaries or stenographers from their own telephones, so that if the person called is not in his office at the time or is too busy to answer, his secretary or stenographer may inform the calling subscriber accordingly. The object of this invention is the production of new and improved secretary service equipment having certain new and improved operating characteristics.

A particular feature of this invention is that the secretary, after answering a call, may signal the wanted person to call him to his telephone and inform him the nature of the call and who the calling subscriber is without the calling subscriber being aware of this fact; that is, the wanted person and his secretary may converse over their telephones while the calling subscriber is on the line without the latter hearing the conversation.

Another feature of the invention is that the arrangement may also be used as an intercommunicating system between one person and his stenographer, or may also be used for ordinary buzzer signalling purposes.

These features, together with others not specifically mentioned, and the operation of the equipment will be described in detail with the aid of the accompanying drawing, which disclose the invention by means of the usual schematic circuit diagrams. In the drawing, the telephone and the associated equipment for the manager, for example, is shown between the two middle dotted vertical lines and comprises the usual automatic telephone, a buzzer B, a two-way key K, and a controlling relay 4. At the secretary's desk, similar equipment is provided except that the key K′ need only be a one way key. At any convenient place a battery X and an impedence coil Y may be located. The telephone line of the manager comprising conductors 2 and 3 terminates at the main automatic exchange in the individual rotary line switch LS and is also accessible thereat in the banks of the local connectors, such as connector C, in the well known manner.

For the purpose of describing the operation of the equipment in detail, it will first be assumed that a call is extended to the telephone line comprising conductors 2 and 3 by way of the connector C. After connection thereto has been extended, ringing current is intermittently applied to the line conductors from the connector C in the ordinary manner, which causes the ringing of the bells at the manager's telephone and also at the secretary's telephone. The manager pays no attention to the ringing of the bells of this telephone at this time. The secretary, to answer the call, removes her receiver and speaks with the calling subscriber, learning the nature of the call and the identity of the calling subscriber.

If the manager is not in his office, the secretary will of course, so inform the calling subscriber. If the manager is in his office, the secretary will first speak with the manager. To do so, she operates the key K′. The operation of key K′ disconnects the secretary's telephone from the line conductors by separating contacts 11′ and 12′, and connects it to the intercommunicating conductors 22 and 23 in series with relay 4′ by closing contacts 13′ and 14′. At the same time the resistance R′ is bridged across the line conductors by the closure of contacts 10′ to maintain the connection from the calling subscriber intact. Since the battery X is bridged across the conductors 22 and 23 through the impedance coil Y, relay 4′ operates and by closing contacts 6′ closes the circuit for the buzzer B at the manager's desk. Buzzer B operates (buzzer B as well as buzzer B′ being of the type in which the deactuation of the buzzer armature is brought about by the energization of a differential winding when the armature is actuated) and signals the manager. The manager then removes his receiver and also operates the key K to the left, likewise bridging his telephone across the intercommunicating conductors 22 and 23 in series with relay 4. Relay 4 operates and opens

the circuit of buzzer B. The secretary and the manager may now converse over the conductors 22 and 23 without the calling subscriber hearing the conversation. The secretary informs the manager who wishes to speak with him and what is wanted, and the manager informs the secretary what disposition to make of the call. If the manager is too busy to answer the call at this time or does not desire to talk with the particular person calling, the secretary after being so instructed restores the key K′ to normal which operation again bridges her telephone across the line conductors 2 and 3, and then informs the calling subscriber that the manager is not available at this time.

If the manager desires to talk with the calling subscriber, however, he will restore the key K to normal thus again bridging his own telephone across the line conductors 2 and 3 and then commence conversation. If he cares to make it impossible for the secretary to listen to the conversation, he throws the key K to the right thereby disconnecting the branch of the line conductors extending to the secretary's desk.

The arrangement may also be used as an intercommunicating system between the manager and his secretary. The manner in which the secretary may call the manager has already been described, that is, she operates the key K′ and removes her receiver, which causes the buzzer B to operate and signal the manager. The bridging of the resistance R′ across the line conductors 2 and 3 at this time incidentally causes the line switch LS to operate and seize an idle trunk, but no other operation in the main automatic exchange takes place. The manager, in the same manner, may call the secretary by removing his receiver and operating the key K to the left. The operation of relay 4 responsive to the operation of key K to the left now closes the circuit for buzzer B′ at the secretary's desk by closing contacts 6. Buzzer B′ operates and when the secretary answers by removing her receiver and operating key K′, relay 4′ operates and by separating contacts 5′ opens a circuit for buzzer B′ which causes it to cease operating. Thus, either may signal the other by merely throwing his individual key, and as soon as the other person answers, his buzzer stops signalling.

The equipment has been shown and illustrated in connection with a line from a main automatic exchange. The same equipment may also be used in a private automatic exchange. In the latter case, it might be desirable to dispense with the individual battery X and run two conductors from the impedence coil Y to the private automatic switchboard to the regular exchange battery.

The manager, as well as the secretary, may make outgoing calls by merely removing his receiver and dialling the called number in the usual manner, line switch LS operating responsive to the removal of the receiver to extend the connection to an idle selector (not shown) and automatic switches in the main exchange operating responsive to the digits dialled to complete the connection.

This completes the description of this invention. What is considered new and is desired to have protected by Letters Patent is specifically stated in the appended claims.

What is claimed is:

1. In a telephone system, a line, means for extending a connection thereto, two telephones normally connected to said line from either of which a call to said line may be answered, and means for disconnecting said telephones from said line and for establishing a talking connection between said telephones independent of said line.

2. In a telephone system, a line, means including an automatic switch for extending a call to said line, two stations normally connected to said line from either of which said call may be answered, means for disconnecting said stations from said line and for establishing a talking connection between said stations independent of said line, and means for maintaining said automatic switch operated while said stations are disconnected from said line.

3. In a telephone system, a line, means for extending a connection from a calling station to said line, a first and a second station on said line from either of which a call to said line may be answered, and means for establishing a talking connection from said first station to either said calling station or to said second station to the exclusion of the other.

4. In a telephone system, a line, means for extending a connection from a calling station to said line, a first and a second station on said line from either of which the call may be answered, and means for establishing a talking connection either between all three stations, or from said first station to either the calling station or said second station to the exclusion of the other station.

5. In a telephone system, a telephone line, a first and a second telephone normally connected to said line, a pair of intercommunicating conductors, connecting means at each telephone for disconnecting it from said line and for connecting it to said conductors, a signal at the second telephone, means responsive to the operation of the connecting means at the first telephone for starting the operation of said signal, and means responsive to the operation of the connecting means at the second telephone for stopping the operation of said signal.

6. In a telephone system, two telephones, a pair of intercommunicating conductors, connecting means at each telephone for con-

necting it to said conductors, a signal at each telephone, and means at each telephone responsive to the operation of the connecting means at the telephone for starting the operation of the signal at the other telephone providing the connecting means at the other telephone is not operated and for stopping the operation of the signal at the telephone providing it has been started responsive to the operation of the connecting means at the other telephone.

7. In a telephone system, two telephones, a pair of intercommunicating conductors, a signal at each telephone, means at the first telephone operable at will for starting the operation of the signal at the second telephone, connecting means for connecting the second telephone to said conductors, and means responsive to the operation of said connecting means for starting the operation of the signal at the first telephone, providing said first means is not operated, and for stopping the operation of the signal at the second telephone providing its operation has been started by the operation of said first means.

8. In a telephone system, a first and a second telephone, a pair of intercommunicating conductors, a signal at each telephone, means at the first telephone operable at will for starting the operation of the signal at the second telephone, a relay at the second telephone, connecting means for connecting the second telephone to said conductors in series with said relay, and means controlled by said relay for starting the operation of the signal at the first telephone providing said first means is not operated, and for stopping the operation of the signal at the second telephone providing its operation has been started by the operation of said first means.

9. In a common battery telephone system, an exchange, two telephones, a line extending from said exchange to said telephones over which connections to said telephones may be established, a pair of intercommunicating conductors extending between said telephones, means for establishing a talking connection between said telephones via said conductors independent of said line, and a local battery for supplying talking current to said telephones when said telephones are connected via said conductors.

10. In a telephone system, a line, means including an automatic switch for extending a call to said line, two stations normally connected to said lines from either of which said call may be answered, means for disconnecting said stations from said line and for establishing a talking connection between said stations independent of said line, and means responsive to the operation of said last means for placing a bridge across the conductors of said line while said stations are disconnected from said line.

11. In a telephone system, a private line extending from an exchange to a telephone, an extension for the private line normally connected to the private line and extending to a second telephone, an intercommunicating line extending between said telephones, a two-position key at the first telephone effective when operated in one position to connect the first telephone to the intercommunicating line and effective when operated in the other position to disconnect the extension from the private line.

In witness whereof, I hereunto subscribe my name this 22nd day of July, A. D., 1927.

CLARENCE E. LOMAX.