

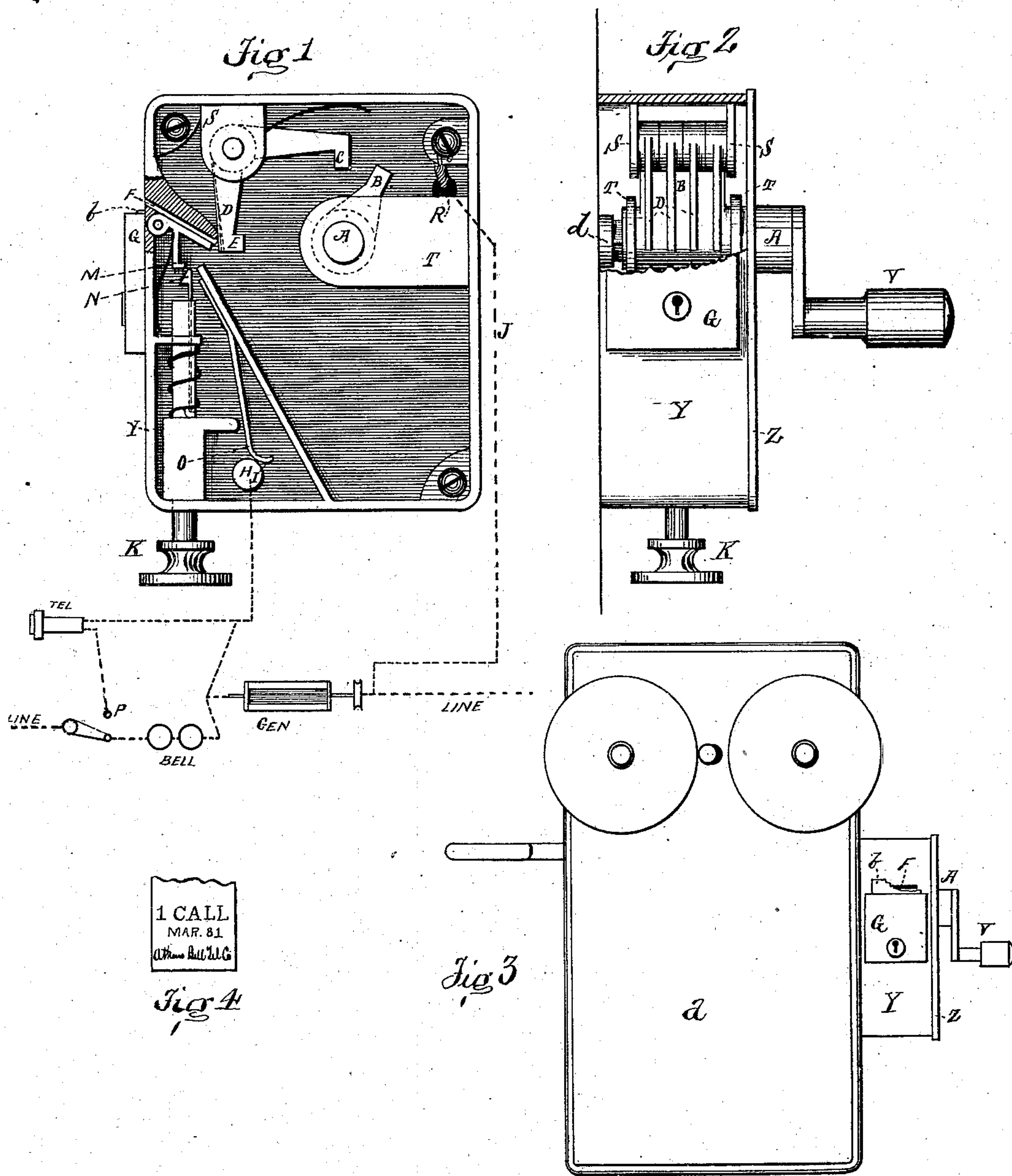
(No Model.)

J. W. SEE.

Telephone Toll System and Apparatus.

No. 237,327.

Patented Feb. 1, 1881.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## TELEPHONE TOLL SYSTEM AND APPARATUS.

SPECIFICATION forming part of Letters Patent No. 237,327, dated February 1, 1881.

Application filed September 23, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES W. SEE, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Telephone Toll Systems and Apparatus, of which the following is a specification.

This invention pertains to a plan for securing pay from the user each time a telephone-station of an exchange system is used.

My improved system of toll business involves a locked calling apparatus at the station, said calling apparatus being unlocked for use by an operation which requires the mechanical presentation to said calling apparatus of a ticket entitling the caller to one call. It may also involve, as herein shown, a means for sending from the station to the exchange a distinctive signal for the purpose of responding to calls, and for the purpose of "ringing off," without the presentation of a ticket, as above mentioned.

My improved system requires peculiar apparatus at the stations. I show herein one form of such apparatus as a simple and cheap attachment to be made to common calling apparatus now in use.

In the accompanying drawings, Figure 1 is an interior view of my attachment for a common magneto call-box; Fig. 2, a front view of the same with part of a wall broken away; Fig. 3, a front view of a common magneto call-box with my attachment affixed, and Fig. 4 a view of a ticket to be used in sending a call.

In Fig. 3, *a* is a common magneto call-box. A long call is sent by turning the crank V. My attachment Y is fixed to the side of the box, and contains mechanism which prevents long calls being sent. The mechanism locks the shaft A against the rotation necessary to send a long call, but not against such partial rotation as is necessary to send short calls for responses or for ringing off. The lock which prevents rotation may be unlocked by means of a tumbler-key, which is to be presented in the slot F. The key (a view of which is given in Fig. 4) is a ticket. The key or ticket may be of metal or card-board or other material, and when once used is retained by the mechanism, thus requiring a ticket for each call. A lock, G, may be added to throw a guard over the slot F when desired. The tickets fall

into a receptacle in the apparatus, and are removed from time to time by a person provided with a key to the receptacle. For extra tolls the exchange operator may require the caller to send two or three calls, thus using two or three tickets before he makes the desired connection.

In Fig. 1, A is the rotary shaft of the calling device. It has an arm, B, which, in the rotation of the shaft, will strike stop C, and thus prevent continued rotation. The stop C is a part of one or more locking-tumblers, which must be moved away before shaft A can rotate. The tumblers are in the form of a bell-crank, as shown, the vertical limb D being disposed before a ticket-slot, F. A ticket of proper form, being inserted in the slot, pushes limb D inward and removes C from the path of the arm B. If limb D be pushed in too far, the arm B will strike stops E, and the lock will still be operative to prevent continued rotation. The ticket must move limb D to a proper position. The tumblers may be arranged as shown in Fig. 2, in which four tumblers are shown, and they may be so proportioned that each tumbler must be moved differently to allow the arm B to pass. This would require a peculiar edge on the ticket, precisely like the flat key to a tumbler-lock, which is really what this lock is. The tickets may be made as complicated as desired, and a monthly change in their shape and in the lock-work is easily made. When a ticket is properly presented in the ticket-slot the shaft A may be turned continuously.

K is the push-button used to throw generator-current to the line. I suppress by fastening open the regular push-button of the call-box, and arrange the circuits so that the button of my attachment assumes its functions. Heavy dotted lines show course of circuit. The line-circuit normally goes to, as at R, the metal case Y, thence by spring O to insulated post H, thence through bell-coils to ground or continued line. Upward pressure on button K compels circuit to go through the generator, whose resistance tended previously to throw current incoming to short-cut through the post H. Upward position of button K is required to send generator-current to line.

The circuit from contact H to bell-coils is



branched, as shown, and in this branch is placed the telephone. A switch may throw circuit through this branch instead of through bell-coils. This renders it necessary that the button K should be down, in order to remove the high resistance of the generator from the line when talking. For long lines, in which the presence of the generator-resistance would be inconsiderable and inappreciable, the circuits may be otherwise arranged, so that the downward position of the button K is essential to the proper working of the telephone. By this means a guard is provided against a party who sees fit to insert a ticket and tie the button in its upward position, so as to be in readiness at all times for a long and unpaid-for call.

The bottom of the ticket-slot is a pivoted shelf, M, held upward in proper position by a spring. When the push-button K is pressed upward to send a call the light spring-hook N upon it engages with the shelf, and when the push-button moves downward it tips the shelf down in an obvious manner and the ticket falls into the interior of the case, the shelf upon reaching a certain position releasing itself and returning.

I show the attachment as a light metal case screwed, by inside screws, to the side of the

call-box, and provided with a cover-plate, Z. This plate should have a lock, and its key should be in the hands of ticket-collectors only.

The crank V should be made easily removable, so as to allow cover to come off, though the cover may swing aside enough to get at tickets, &c.

I show the shaft A as being self-contained in the attachment and arranged to socket over a stub, d, formed on the regular call-box shaft. By this means a standard form of attachment may be designed which can be cheaply fitted to any call-box.

I claim as my invention—

1. In a telephone-system having a central office and one or more stations, the combination, at a station, of a calling-instrument, a key-absorbing lock, and a locked key-receptacle, substantially as and for the purpose set forth.

2. In a telephone calling-instrument, the combination of a signal-current generator, a locked detent, and a rotary shaft having a detent-catch, substantially as and for the purpose set forth.

JAMES W. SEE.

Witnesses:

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