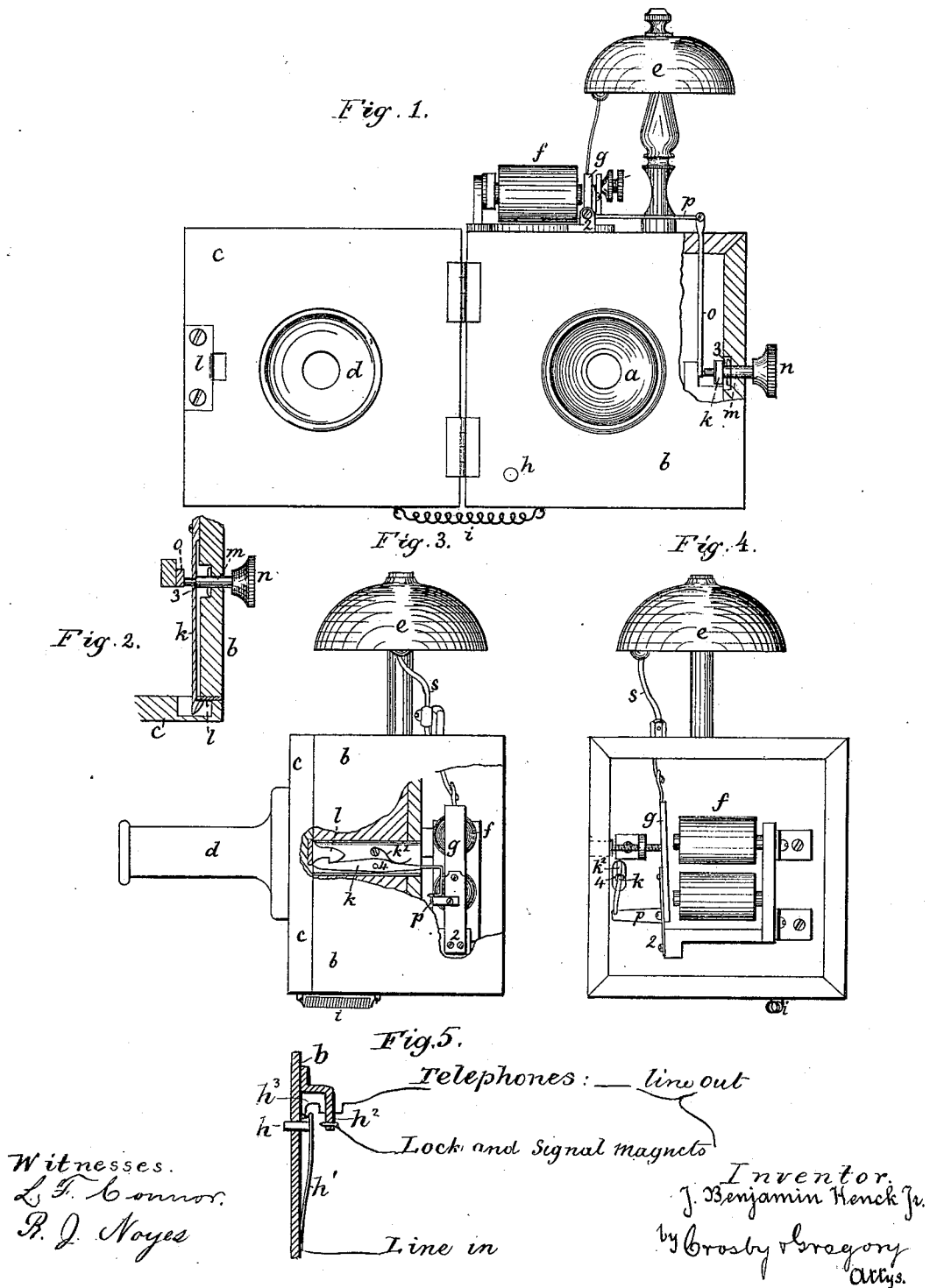


(No Model.)

J. B. HENCK, Jr.
LOCK FOR TELEPHONES.

No. 251,584.

Patented Dec. 27, 1881.



UNITED STATES PATENT OFFICE.

J. BENJAMIN HENCK, JR., OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
AMERICAN BELL TELEPHONE COMPANY, OF SAME PLACE.

LOCK FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 251,584, dated December 27, 1881.

Application filed June 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, J. BENJAMIN HENCK, Jr., of Boston, Suffolk county, State of Massachusetts, have invented an Improvement in
5 Locks for Telephones, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to telephones, and has for its object to place the telephones used in
10 an exchange system wholly under the control of the central-office operator, so that no subscriber can use his telephone except when permitted by the said operator, this arrangement insuring perfect secrecy in the communications
15 of the subscribers.

My invention consists in inclosing the telephone in a case, or providing a cover or door for its mouth-piece, having a lock controlled by the central operator, so that the subscriber
20 cannot obtain access to the telephone except when it is unlocked by the said central operator.

The locking device is shown as connected with and actuated by the usual signaling apparatus in such a manner that a single operation calls the subscriber and releases or unlocks his telephone; and in one form of apparatus the subscriber co-operates with the central-office operator in opening the telephone, a
30 spring-latch being employed, which can be operated by the subscriber to permit the case or door to open only when allowed by the action of the central operator. In another form of apparatus shown the latch is directly operated from the central office.
35

The opening and closing of the case may be made to operate a switch automatically to make the changes in circuit-connection, commonly made by removing the telephone from its hook
40 and hanging it thereon.

I am aware that several devices for insuring secrecy have been hitherto invented, some of them being under control of the central office; but I do not know of any apparatus in which
45 the telephones are inaccessible to the subscriber except when the central operator permits them to be used.

Figure 1 is a front elevation of a telephone and signal constructed in accordance with my

invention; Fig. 2, a sectional detail illustrating the spring-latch; and Figs. 3 and 4, side and rear elevations, respectively, of a modified form of apparatus in which the latch is released directly from the central office. Fig. 5 is a diagram showing the electrical connections.
50 55

The telephone *a*, of any suitable or usual form, it being, for example, the well-known Blake transmitter, is inclosed in a case, *b*, provided with a door or cover, *c*, adapted, when
60 closed, to completely cover the mouth-piece of the telephone *a* and prevent it from being used.

The receiving-telephone *d*, of any usual construction, may be mounted in the cover or door
65 portion *c* of the case, as shown, so that it will also be inaccessible for listening when the door is closed, and when open will be in convenient position for the application of the ear of the subscriber while using the transmitting-telephone *a*.
70

A signal-bell, *e*, with its operating electromagnet *f* and armature *g*, pivoted at 2, is mounted on the case *b*, and a switch-button, *h*, is depressed by the door *c* when closed, to operate the usual switch for removing the telephones from and placing the signal-magnet *f* in circuit.
75

The electrical connections are shown in Fig. 5, in which the spring *h'*, carrying the pin *h* at its outer end, works between a bridge, *h*², and a front contact, *h*³, the bridge being connected with the lock and signal magnets and the front contact with the telephones. The spring *h'* is connected with the line on one side of the apparatus, and the telephones and lock and signal magnets are placed in separate branches of the line on the other side of the apparatus.
80 85

The normal condition of the case *b* and its cover *c*, when the apparatus is not in use for communication, is closed, as shown in Figs. 2, 3, 4, so that the signal is in circuit and the telephone out of circuit and inaccessible for communication, and a spring, *i*, or equivalent device, is provided to automatically close the door as soon as it is released by the subscriber when he has ceased to use the telephones, the door being held open by him while using them.
90 95

When the door is thus closed a spring-latch, *k*, engages a shoulder or catch, *l*, to hold it closed, and the said latch is inaccessible for the purpose of disengaging it from the said shoulder, so that after the door is closed it cannot again be opened by the subscriber, except when the proper operation has been performed by the central-office attendant, as will now be described.

In the form of apparatus illustrated in Figs. 1 and 2 a short rod, *m*, extending through the side of the case *b*, and provided with a finger-button, *n*, has a shoulder, 3, engaging the latch *k*, so that when the said button is depressed the latch is disengaged from the shoulder *l* to permit the case *b* to be opened. The end of the rod *m* passes through the latch and is obstructed in its movement to thus disengage the latch by the end of a locking-bar, *o*, connected with the releasing-arm *p*, attached to and movable with the armature *g* of the signal-operating electro-magnet *f*, so that the subscriber cannot depress the button and open the case to use the telephone until the releasing-arm *p* is operated to raise the end of the locking-bar *o* from the path of the said rod *m* by the attraction of the armature 8 to the magnet *f*, which takes place when an electric current is applied from central office or other desired point, the same movement of the armature causing the bell *e* to sound, and thus signaling the subscriber.

In the modification shown in Figs. 3 and 4 the rod *m* and its locking-bar *o* are omitted, and the releasing-arm *p*, connected with and actuated by the armature *g*, operates directly on the latch *k*, which is pivoted at 4 and pressed by the spring *k*² into engagement with the catch *l*. When the armature *g* is drawn forward the outer end of the releasing-arm *p*, which is in contact with the tail of the latch *k*, is moved upward and lifts the tail against the pressure of spring *k*², thereby depressing the opposite end of latch *k* and releasing it from the catch *l*.

When the form of apparatus shown in Fig. 1 is employed the entire signaling and latch-controlling apparatus, mounted on the telephone-case *b*, will be in practice inclosed in a case, so that it cannot be tampered with by the subscriber, and in the form shown in Fig. 4 the stem *s* of the bell-hammer (which may be uncovered or exposed) is not positively connected with the armature *g*, so that the subscriber cannot by means of the said bell-hammer stem move the armature.

It is obvious that an independent magnet and armature might be employed to control the latch or locking device of the telephone-case and its door, and that any of the well-known forms of "individual" armature-controlling devices might be employed, so that any desired one of the cases *b* of a series in the same circuit might be unlocked independently of the others.

When the door or cover of the inclosing-

case is shut the latch *k* will yield to let the shoulder or catch *l* pass and be engaged thereby, regardless of the condition of the magnet *f*.

The apparatus has been described as used in an exchange system and controlled from the central office; but it is obvious that it might be employed on any circuit to prevent any telephone from interfering with others already in use.

A locking device of this nature might be employed to secure other instruments than telephones, the use of which it might be desired to control from a distant point.

I claim—

1. A telephonic apparatus comprising a box or case, an electric lock therefor, connections for completing an electric circuit from a distant point through said box or case, and a telephone placed within said box and connected in a loop of the same circuit in which the said lock is placed, the said lock being in operation independent of the telephone, substantially as described.

2. The combination, with a telephone and inclosing-case, of a latch or locking device, an electro-magnet and armature for operating the same, and a switch for cutting out the said magnet and connecting in the telephone or other instrument as or after the case is opened, substantially as described.

3. The telephone and its inclosing-case, provided with a latch or locking device, combined with the signal-bell and its operating electro-magnet and armature, and the releasing-arm actuated by the said armature, whereby the said locking device is caused or permitted to be unlocked by the same movement that sounds the signal, substantially as described.

4. The receiving and transmitting telephone and inclosing-case therefor, arranged to cover the mouth-pieces of the said telephones when closed, combined with the locking device for the said case, and means to control it from a distant station, substantially as described.

5. The telephone and its case and movable door or cover therefor, combined with a switch-button operated by the said door, and the locking device for the said door, substantially as described.

6. The case and its cover, in combination with an electro-magnetic locking device, comprising a spring-latch, a fixed latch or shoulder, with which the elasticity of said spring-latch tends to hold it engaged, an electro-magnet and armature, and connections for controlling the spring-latch, substantially as described.

7. The case and cover or door therefor, and receiving and transmitting telephones therein, arranged as described, one being supported in the case and the other carried by or movable with the cover or door, so as to be in convenient position for use when the door is open, and to be both inaccessible when the door is closed, substantially as described.

8. The case and its door or cover and tele-
phones therein, combined with the spring to
automatically close the said case, except when
positively held open by the person using the
5 telephones, and an automatic switch operated
by the movement of the door, substantially as
described.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

J. BENJAMIN HENCK, JR.

Witnesses:

JOS. P. LIVERMORE,
LAURENCE F. CONNOR.