

(No Model.)

P. SEILER.

VISUAL ANNUNCIATOR FOR CALL BOXES.

No. 421,882.

Patented Feb. 18, 1890.

Fig. 1

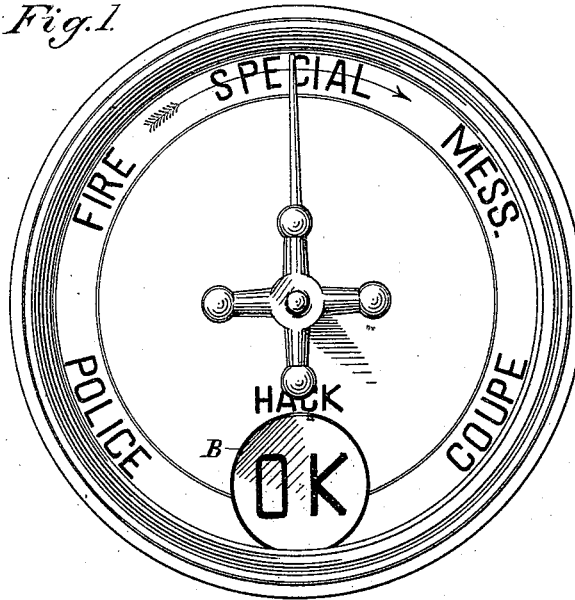
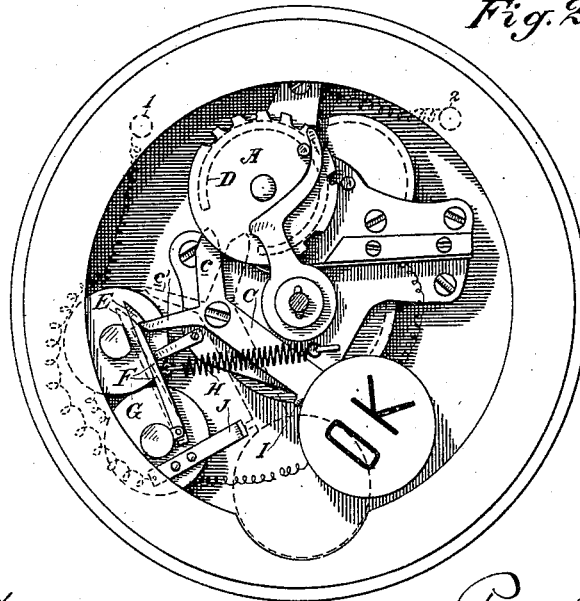


Fig. 2



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UNITED STATES PATENT OFFICE.

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VISUAL ANNUNCIATOR FOR CALL-BOXES.

SPECIFICATION forming part of Letters Patent No. 421,882, dated February 18, 1890.

Application filed June 21, 1889. Serial No. 315,102. (No model.)

To all whom it may concern:

Be it known that I, PAUL SEILER, of the city and county of San Francisco, State of California, have invented an Improvement in Visual Annunciators for Call-Boxes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an annunciator for fire, police, and messenger call-boxes; and its object is to announce that the call has been received at the central station in a manner that can be readily understood and not mistaken. In the use of these boxes it is usual to employ a small bell, which is placed inside the box; and this bell is sounded from the central office to indicate that the call has been received; but, being very small, the bell does not ring loudly enough to be heard distinctly, especially in hotels or where there is a great deal of noise. These return-calls are operated by the lever or crank of the box, and are apt to be released immediately after being set in position and before the clock-work has completed its movement, this release being effected by the excess of current on the line which affects the magnet employed to trip the bell-hammer and where other boxes are being worked on the same wire, and during busy hours there is no dependence to be placed on the return-calls, because one is as likely to be operated from the central office as another.

My improvement consists in the employment of a visible annunciator or indicator, so that the return call or answer from the central office is visible to the eye, and the operator does not depend upon the bell or the clicking of an armature.

It consists of the setting and tripping device, the latter being operated only after the clock-work has ceased its operation.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view showing a part of the mechanism of an ordinary call-box and my invention connected therewith. Fig. 2 is a similar view with the face-plate removed to disclose the gearing and operating parts.

The call-box or clock-work mechanism which I have shown in this case is of the ordinary type, having the character-wheel A revolving once or more, as desired, to indicate

the nature of the call. A lever may be employed, or, as shown in the present case, a cross having knobs, which is more convenient to manipulate in turning the shaft and the connected pointer and mechanism. The exterior face has a dial with printed indications, and at the bottom is a hole B, through which may be displayed the letters "O. K.," or the word "Answered," or anything which is desirable to indicate that the call has been received.

The clock-work and other mechanism of the device being well known, I shall not here enter into any description of it.

Upon the frame of the clock-work is fulcrumed the lever-arm C, carrying the indicator at one end, so that when the lever is dropped about its fulcrum this indicator will stand in front of the aperture which is made in the dial. The other end has two forks, one of which *c* extends up beneath the character-wheel A. Upon the back of this wheel is a flange or rim D, which is cut away or has an open space between its ends corresponding with that branch of the lever when the clock-work has come to rest. As soon as the clock-work has been started this rim or cam acts upon the arm of the lever, and, turning the lever about its fulcrum, raises the indicating-letters out of sight and away from the aperture. The second prong or fork *c'* of the lever engages the detent E of the armature F, and being thus engaged the lever is kept out of the way and the indicator is out of sight. The character-wheel revolves when released; but if the lever should be released from the detent at any time while the character-wheel is revolving it would not allow the indicator to come into sight until the wheel had stopped on account of the cam, which would prevent it. When the clock-work has completed its movement and the character-wheel has come to rest, the open space in the cam will stand opposite the arm *c* of the lever. By sending a strong current from the central office through the magnet G the armature will be drawn down and the detent will be released, thus allowing the lever-arm to fall and expose the indicator opposite the aperture.

A light spring H is attached to the clock-work of the mechanism and to the armature, and this draws the armature back as soon as

the current through the magnet ceases. The detent will then be in readiness to engage the second branch or arm *c'* of the lever whenever the latter is drawn up.

5 It will be manifest that any number of call-boxes on the same circuit may be operated in this manner, the position of the lever being such as to expose the indicator under ordinary conditions, and any currents passed
10 through the magnets for the purpose of answering one or any particular box will not affect the indicators of other boxes on the line.

When the mechanism has been turned to
15 make a call, the indicator will be turned up out of sight, and cannot again be dropped by any number of answers which may be passing over the wire and through the magnet while the machinery is in motion. As soon,
20 however, as the apparatus comes to rest the answer will act upon the magnet of that particular box, and through this armature will release the detent and allow the indicator to drop.

25 This device is especially adapted to the thousands of call-boxes now in use which have no answering mechanism and to which this would be a desirable addition. The magnet can be wound to any resistance as long as
30 it is not affected by the ordinary battery-power employed with a relay at the central station. The latter, if wound very high, can be short-circuited to allow the magnet in the box to attract its armature, or by employing
35 extra battery-power thrown into line the same effect will be produced.

The annunciator-lever carrying the marker or indicator acts as a short-circuit switch for the magnet in the box, thereby cutting out
40 the resistance of the box-magnet and interior connections when the box is at rest. This is done by means of the point I upon the lever, which is in contact with the arm J when the lever is dropped and the box at rest, and it
45 thus short-circuits the entire interior of the box from the terminals 1 and 2, thus having the advantage of overcoming disturbances of broken springs and character-wheels which make imperfect contacts when at rest, or
50 springs which make, break, and leave the circuit open inside of the box. As the cam has entire control of the lever which carries the indicator, it acts as a switch during the time the box is working on account of the short-

circuit device being controlled by the character-wheel and cam, as before described.

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

1. In a call-box, the visible annunciator
60 mounted upon one end of a lever, a cam upon the character-wheel engaging the opposite end of the lever, whereby said lever is moved about its fulcrum so as to conceal the annunciator, a magnet, an armature actuated by said
65 magnet, and carrying a detent by which said lever is held up until released by the action of the magnet, substantially as herein described.

2. In a call-box, a lever fulcrumed within said box, a visible annunciator fixed to one
70 end of the lever, forks or branches at the opposite end, one of which is engaged by a detent controlled by an armature, and a magnet by which said armature is actuated, and a
75 character-wheel having a flange or cam which engages the other arm of the lever so as to throw it up and conceal the indicator when the character-wheel commences to move, substantially as described.

3. In a call-box, the interior mechanism,
80 the lever or wheel by which it is set in operation, and the dial having the aperture made in it, in combination with the lever fulcrumed within the box, having the visible indicator fixed to one end and having its opposite end
85 forked, a detent by which one of the forks is engaged and the indicator held out of sight, and a cam upon the character-wheel by which the lever is moved so as to conceal the indicator and cause it to engage the detent, substantially as herein described.

4. In a call-box, the visible indicator fixed to one end of the lever whose opposite end is
90 forked, a detent engaging one of the forks, an armature and a magnet by which said detent may be released, and a cam or flange attached to the moving part of the clock-work mechanism and engaging the other fork of the lever, whereby the lever may be moved about its
95 fulcrum until the detent engages it so as to hold the indicator out of sight, substantially as herein described.

In witness whereof I have hereunto set my hand.

PAUL SEILER.

Witnesses:

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