

(No Model.)

2 Sheets—Sheet 1.

J. B. ROGERS.
ELECTRICAL ANNUNCIATOR.

No. 494,762.

Patented Apr. 4, 1893.

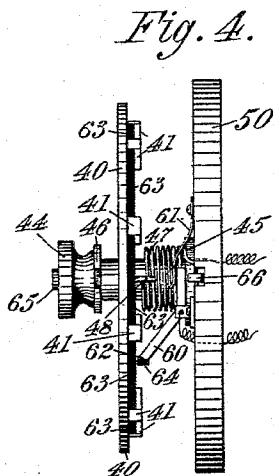
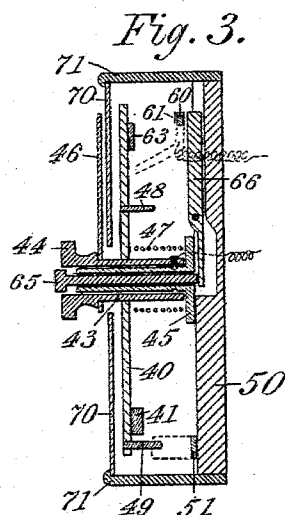
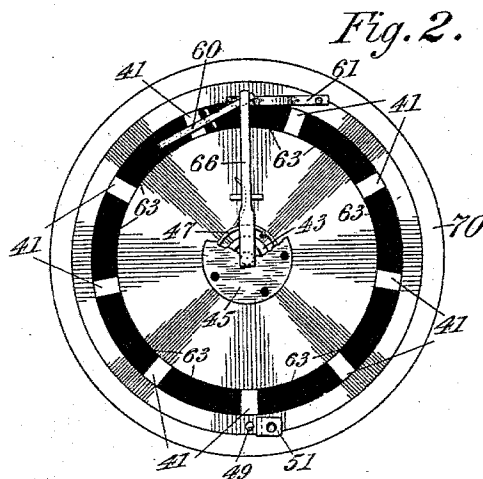
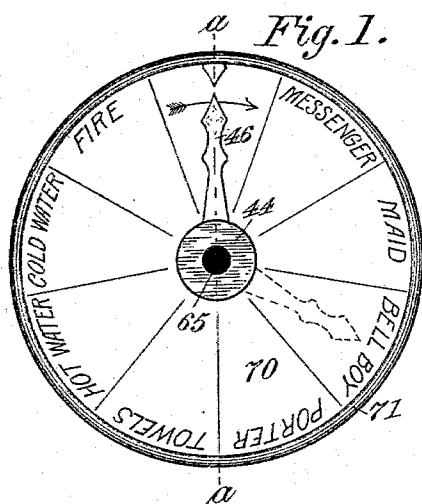
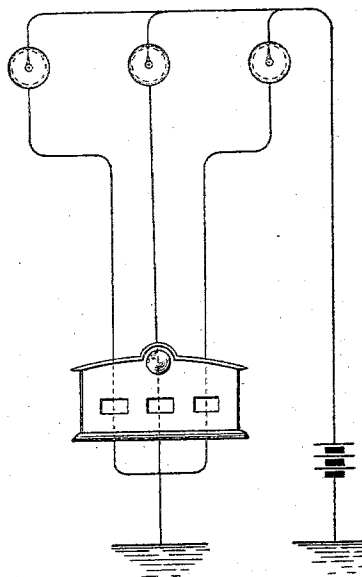


Fig. 9.



WITNESSES

Ed. Bernard
Samuel Wilson

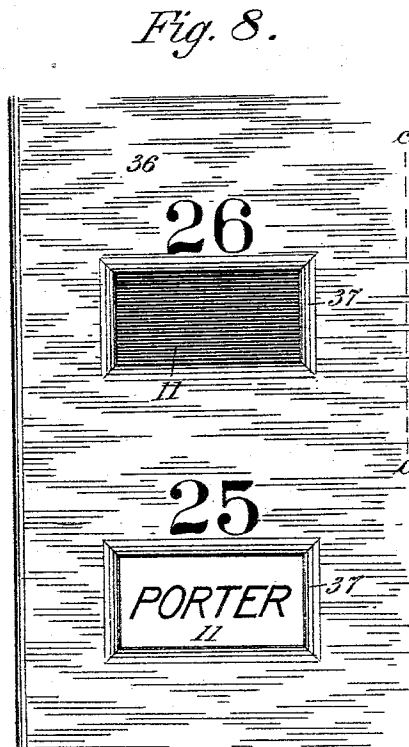
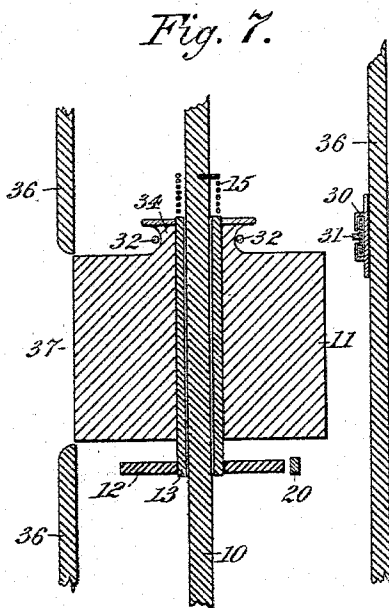
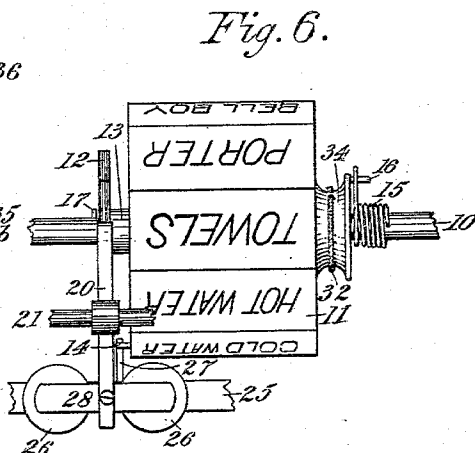
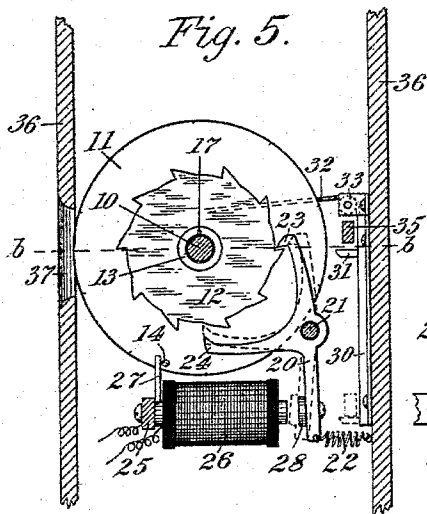
INVENTOR

John B. Rogers

J. B. ROGERS.
ELECTRICAL ANNUNCIATOR.

No. 494,762.

Patented Apr. 4, 1893.



WITNESSES
E. A. Barnard
H. M. Wilson

INVENTOR
John B. Rogers

UNITED STATES PATENT OFFICE.

JOHN B. ROGERS, OF WASHINGTON, DISTRICT OF COLUMBIA.

ELECTRICAL ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 494,762, dated April 4, 1893.

Application filed May 31, 1892. Serial No. 434,992. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. ROGERS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Electrical Annunciators and Call-Boxes, of which the following is a specification.

My invention relates to electrical annunciators and call boxes, adapted for use in hotels, signal stations or elsewhere, and is designed as a valuable substitute for the annunciators and push buttons now in general use. In the drop annunciator, now in common use in hotels, a room is placed in circuit with the office annunciator by means of a push button, which when operated, closes the circuit, and indicates upon the office annunciator the room from which the call is made. It is then necessary to communicate with the room indicated, to ascertain the wishes of the person making the call.

The object of my invention is to provide an electrical annunciator and call box, whereby a person can cause to be indicated upon the face of said annunciator, in a compartment corresponding to the room in circuit therewith, the nature of the person's wants. The accompanying drawings illustrate the means I employ for accomplishing this result.

Figure 1, represents a front elevation of a call box, designed as a substitute for the ordinary push button. Fig. 2, represents a rear elevation of the same with the case removed. Fig. 3, represents a vertical section through Fig. 1, on the line *a, a*. Fig. 4, represents a top elevation of a call box with the circumferential casing and dial removed. Fig. 5, represents a partial section through an annunciator on the line *c, c*, Fig. 8, showing a side elevation of the mechanism for indicating the nature of the call. Fig. 6, represents a rear elevation of said indicating mechanism. Fig. 7 represents a horizontal section through Fig. 5, on the line *b, b*. Fig. 8, represents a front elevation of a portion of an annunciator case, showing the manner in which a call is indicated. Fig. 9 represents the system of connection from the call boxes to the annunciator.

Similar numerals of reference indicate corresponding parts in the different figures.

In an electrical annunciator illustrated by

the accompanying drawings a fixed rod, or arbor 10, is disposed longitudinally within the case 36. The indicating cylinder 11, and ratchet-disk 12, permanently set to the sleeve 13, have their bearing on said arbor 10, and are free to revolve thereon, but such movement is limited to one revolution by means of the stop pin 14, engaging the post 27; a coil spring 15, one end of which is set in the arbor 10, and the other end bearing on the pin 16, tends to constantly force the cylinder 11, forward. The pin 17, and coil spring 15, prevent the horizontal movement of the sleeve 13, along the arbor 10.

The ratchet-disk 12, as shown in the drawings, has ten teeth and the cylinder 11, has its circumference divided into a corresponding number of divisions, upon which are indicated the nature of the different calls. The number of ratchet teeth and cylinder divisions is arbitrary and will vary according to the requirements of the annunciator. A vibrating escapement lever 20, mounted upon a suitable arbor or spindle 21, engages the teeth of the ratchet-disk 12, and prevents the forward movement of said ratchet-disk 12, except when said escapement lever 20 is actuated. A coil spring 22, serves to keep the escapement lever 20, in engagement with the ratchet-disk 12. When the escapement lever 20, is actuated its teeth 23 and 24, successively release and engage the teeth of the ratchet-disk 12, and said ratchet-disk, together with the sleeve 13, and the cylinder 11, are moved forward step by step by the coil spring 15. A fixed bar as 25, is disposed longitudinally beneath the cylinder 11, and carries the electromagnets 26, and stop posts 27. The magnet bar 28, is fastened to the lower end of the escapement lever 20.

In order to set the cylinder back to its normal position after a call, I employ the following means: Moving vertically in a channel bar 30, attached to the case 36, is placed a T hook 31, to which is attached a cord 32, which plays over the pulley 33, on the reel 34. When a call is being made the cylinder 11, revolves forward, (from right to left) winding the cord 32, upon the reel 34, and raises the T hook 31, vertically in the channel bar 30. A bar 35, placed longitudinally within the case 36, and moving vertically directly before the channel

bar 30, when depressed engages the T hook 31, and carries it to its normal position as shown by the dotted lines, Fig. 5, and by this means returns the cylinder 11, to its normal position, the teeth of the ratchet-disk 12, being so shaped as to play over the teeth 23 and 24, of the escapement lever 20. The bar 35, is then returned to its normal position, directly below the pulley 33.

10 In a call box, forming part of this invention and illustrated by the accompanying drawings, a brass or other suitable metallic disk 40, with metallic lugs as 41, made part thereof, is permanently fixed to the metallic sleeve 43, having the knob 44, turned on its outer end, is arbores and revolves upon the metallic arbor 45, which is attached to the base board 50. When in its normal position the pointer 46, points upward. The coil spring 47, bearing on the pin 48, tends to throw it still farther back, but the stop pin 49, engaging the stop 51, attached to the base-board 50, prevents its passage backward, beyond the normal. A lever 60, pivoted on the base-board 50, and held in its normal position by the spring 61, is the means I employ for automatically closing and breaking the circuit from the call box to the annunciator. When the disk 40, is turned to the right as indicated by the arrow, the lugs 41, are successively brought in contact with the point 62, of the lever 60, thereby closing the circuit and keeping it closed during the passage of each lug 41, under the point 62. After the passage of a lug 41, under the point 62, the spring 61, returns the lever 60, to its normal position, and the point 62, comes in contact with the insulating material 63, disposed upon the disk 40, between the lugs 41, thus breaking the circuit, which is again momentarily closed during the passage of the next succeeding lug 41, under the lever point 62. The spring 47, constantly tends to return the disk 40, to its normal position, but the lever 60, acting as a check-pawl and engaging the lugs 41, prevents the return of said disk 40, to its normal position until the lever 60, is released from engagement with the lugs 41, by means of the push button 65, which when pushed in acts upon the lever 66, which forces the lever 60, out of engagement with the lugs 41, thus permitting the spring 47, to return the disk 40 to its normal position, and the pointer 46, turning with it, indicates that it is in that position. A suitable insulating material 64, is disposed on the end of the lever 60, to prevent the circuit being closed when said lever 60, acting as a check-pawl engages one of the lugs 41.

60 The dial 70, is divided into an arbitrary number of equal sectors, which number is one less than the number of divisions of the corresponding indicating cylinder 11, of the annunciator. As one division of the indicating cylinder 11, is always exposed through the opening 37, of the annunciator case 36, it is obvious that the number of divisions of the

dial 70, of the corresponding call box, should be one less than the number of divisions of the cylinder. The number of lugs 41, on the disk 40, corresponds to the number of divisions of its dial 70, which is one less than the number of divisions of the corresponding annunciator cylinder 11. The case 71, fastened to the base-board 50, encircles the mechanism of the call box, and supports the dial 70. The familiar system of wiring illustrated by Fig. 9, is applicable for circuiting the call boxes with the annunciator, but other systems would answer as well.

The practical working of my invention is as follows:—In a room supplied with a call box connected with the office annunciator, a person wishing to call a bell boy would turn the pointer 46, to the division on the dial 70, marked "Bell Boy," by means of the knob 44, also causing the disk 40, to turn with it. By means of the lugs 41, coming successively in contact with the lever 60, the circuit is closed and opened the requisite number of times to cause the indicating cylinder 11, in the office annunciator to turn a corresponding number of divisions, and bring the corresponding division (bell boy) in view through the opening 37, in the case 36. Then by pushing the button 65 the lever 60, is released from engagement with the lugs 41, and the spring 47, carries the disk and pointer back to its normal position.

I do not confine myself to an annunciator and call box of any particular form, or detail of construction, or to any particular system of wiring.

I claim as my invention and desire to secure by Letters Patent—

1. In an annunciator, the combination of an arbor, a sleeve disposed on said arbor, an indicating cylinder fixed to said sleeve and provided with a reel hub, a ratchet wheel also fixed to said sleeve, actuating means having a constant tendency to rotate said sleeve, a vibratory escapement lever pivoted to alternately engage and release said ratchet wheel, means for actuating said lever to release said cylinder and permit it to rotate, a cord wound on said reel by the rotation of said cylinder, and restoring mechanism to re-set said cylinder to its normal position.

2. The combination in an annunciator of an indicating cylinder, a ratchet-disk and a connecting sleeve, turning on a common arbor, a spring for revolving said cylinder, ratchet-disk, and connecting sleeve on said arbor, a vibrating escapement lever pivoted so as to engage the teeth of said ratchet disk, to control the action of said spring, an electro-magnet for vibrating said escapement lever so that said cylinder, ratchet-disk and connecting sleeve can only be impelled step by step the desired distance, a stop pin and post to limit the motion of said cylinder, ratchet-disk and connecting sleeve, a reel attachment to said cylinder, means whereby a cord attached to said reel when operated, will

return said cylinder ratchet-disk and connecting sleeve to normal position after having been actuated, and means whereby a person can actuate said mechanism so as to cause
 5 said cylinder to indicate the desired call through an opening in an annunciator case substantially as set forth.

3. In a call box, the combination of a dial, a rotary shaft, a pointer on said shaft in front
 10 of said dial, a conductive disk on said shaft provided with conductive lugs, disposed at intervals on the inner face of said disk, a spring having a constant tendency to rotate
 15 said disk to its normal position, a pivoted spring-actuated lever disposed in position for contact with said lugs when said disk is rotated, and an electric circuit connected with said lever.

4. In a call box, the combination of a dial, a rotary shaft, a pointer on said shaft over
 20 said dial, a conductive disk on said shaft provided with conductive lugs disposed at intervals on the inner face of said disk, a spring having a constant tendency to rotate
 25 said disk to its normal position, a pivoted spring-actuated lever disposed in position for contact with said lugs when said disk is rotated, an electric circuit connected with said lever, said lever serving as circuit closer and
 30 as a check pawl to arrest the return of said disk, means for moving said lever to release said disk, and a stop for arresting said disk on its return to its normal position.

5. In a call box, the combination of a dial, a rotary shaft, a pointer on said shaft over
 35 said dial, a conductive disk on said shaft provided with conductive lugs disposed at intervals on the inner face of said disk, a torsional spring surrounding said shaft having
 40 one end disposed at a fixed point and the other end connected with said shaft, said spring having a tendency to return said disk to its normal position after the pointer has been moved forward by the operator, a pivoted
 45 spring-actuated lever disposed in position to contact with said lugs when said disk is rotated forward, and an electric circuit connected with said lever.

6. In a call box, the combination of a dial, a fixed tubular arbor, a sleeve disposed on
 50 said arbor and adapted to turn thereon, a pointer on said sleeve over said dial, a disk fixed to said sleeve and provided with conductive lugs and insulating material between
 55 said lugs, a spring having a tendency to rotate said disk to its normal position, a stop for arresting said disk at its normal position, a lever disposed in position for contact with said lugs
 60 when said disk is rotated, a signal circuit connected with said lever, an actuating lever disposed in position to actuate said lever in circuit, and a push pin in said arbor for engaging said actuating lever.

7. The combination in a call box in circuit with an annunciator, of a dial, metallic sleeve
 65 with pointer and metallic disk attached thereto, arbored and free to revolve on a suitable spindle, an arbitrary number of metallic lugs, disposed upon the face of said disk, a suitable
 70 insulating material disposed upon the face of said disk between each of said lugs, a metallic lever insulated at one end, pivoted so as to engage the metallic lugs successively as the disk is revolved, automatically closing and
 75 opening the circuit to the annunciator and so constructed as to act as a check-pawl to prevent the return of the disk to its normal position until desired, a push button and auxiliary lever for throwing the metallic lever
 80 when acting as a check-pawl out of engagement with the metallic lugs of the disk, a spring bearing upon a pin disposed upon the face of said metallic disk for returning said disk to normal position when the lever acting
 85 as a check-pawl is out of engagement with the lugs of said disk, a pin and post to limit the movement of said disk, and suitable connection with an annunciator so as to cause to be indicated by said annunciator a call corresponding to the division of said dial to
 90 which said pointer is turned when actuated substantially as set forth.

JOHN B. ROGERS. [L. S.]

Witnesses:

E. C. BARNARD,
 H. M. WILSON.