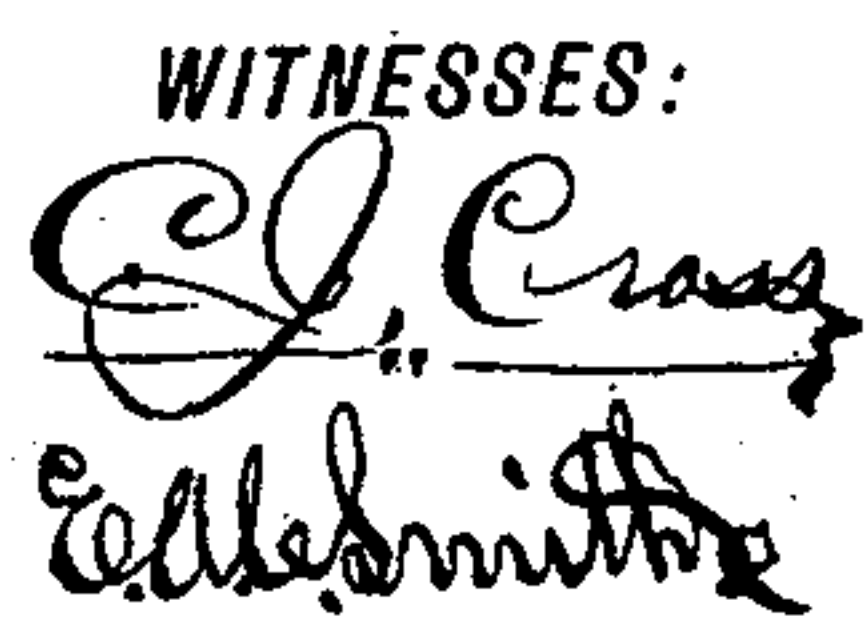


M. GARL.
ANNUNCIATOR.

Patented July 7, 1891.



INVENTOR
Mamas Gare
 BY
Fred W. Bond
 ATTORNEY.

UNITED STATES PATENT OFFICE.

MANIAS GARL, OF CANTON, OHIO.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 455,316, dated July 7, 1891.

Application filed September 26, 1890. Serial No. 366,191. (No model.)

To all whom it may concern:

Be it known that I, MANIAS GARL, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have
5 invented certain new and useful Improvements in Annunciators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being
10 of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a rear view of the annunciator-case, showing its different parts properly located and connected. Fig. 2 is a diagram,
15 showing an open circuit and a continuous call. Fig. 3 is a diagram showing a closed circuit. Fig. 4 is a view showing needle mechanism in its normal position and an open current. Fig. 5 is a view showing the arma-
20 ture drawn in contact with the magnet-core and held by the curved extension. Fig. 6 is a view of the different parts after the number has been called or indicated and before the needle or needles have been adjusted to
25 their normal position. Fig. 7 is a view of the drop, showing same in normal position.

The present invention has relation to annunciators; and it consists in the different parts and combination of parts hereinafter
30 described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

35 In the accompanying drawings, A represents the magnet-frame, which may be substantially of the form shown in the drawings, and is held in the case in the ordinary manner.

40 In Fig. 1 two magnet-frames and their different parts are shown; but it will be understood that any desired number of magnet-frames may be placed in a frame or case, the number of magnet-frames corresponding with
45 the number of indicating-needles designed and calculated to be used.

The armature B is formed round, and is held to the frame A by means of the collar *a*, and the end of said armature abutting against
50 the inner side of the face-plate of the annunciator.

To the rear end of the armature B is at-

tached the spring *b*, which spring is for the purpose of making a connection on top of the screw *c*, thereby making connection to the
55 armature when said armature is disconnected from the magnet-core.

For the purpose of adjusting the drop of the armature B the adjusting-screw *c* is provided, and is located substantially as illus-
60 trated in Figs. 2 and 3.

It will be understood that by providing the spring *b* a better connection will be made for a closed circuit, and when the armature B is
65 dropped, as hereinafter described, and a number has been called the bell will ring continuously until the indicating-needles are adjusted, as hereinafter described, to their normal positions. In use the connection is made
70 with the battery A', one pole of said battery being grounded at or near the battery and the other pole grounded upon the opposite side or beyond the annunciator proper, there-
by causing the current to pass through the magnets B' and hold up the armature B. The
75 free end of the armature engages the under side of the curved extension *d*, as illustrated in Fig. 5. The curved extension *d* is preferably formed integral with the drop C, which
drop C is securely attached to the needle-
80 shaft D, to which shaft is securely attached the indicating-needle *d'*.

For the purpose of securely holding the needle-shaft D in proper position and preventing said needle-shaft from moving end-
85 wise the screw *f* is provided. The battery A² is connected by the wire *a'* to the adjusting-screw *c*, which forms one pole of the battery. The wire *a'* is connected to the bell E in the ordinary manner. The opposite pole of the
90 battery is connected by the wire *a*³, said wire *a*³ being connected to the frame A, which causes the current to pass through the armature B and close the circuit by engagement
95 of the spring *b* after said armature has dropped. The weight of the armature B carries the spring *b* over and against the screw *c*, thereby making the connection simultaneously with
the dropping of the armature.

In Fig. 2 the battery A³ is connected sub-
100 stantially the same to the frame A as the battery A² is connected, except the opposite pole is connected by means of the return-wire *a*⁴ and is an open-circuit connection. The wire

making this open-circuit connection passes through the magnets and back to said battery. The return-wire is connected to the push-button a^5 , which button is for the purpose of closing the circuit. In this arrangement the battery A^3 does the work of the two batteries A' and A^2 , Fig. 3.

The switch F is located at any desired point, and if said switch is open the call-bell will only ring while the button is being pushed; but if the switch is closed the bell will ring continuously until the switch is open or until the indicating-needles are brought back to their normal position.

The object and purpose of providing a continuous call is to notify that a call has been made during the absence of the person or persons designed to be called. The drop C is provided with the notch g , which is for the purpose of holding the indicating-needle in its normal position by means of the armature engaging said notch g . When a call is made, the armature B is elevated, thereby disengaging it from the notch g , at which time the drop is free to fall by its own weight.

For the purpose of using a closed-circuit battery the curved extension d is held up by the armature B , said armature being held up by the current, and when the current is broken the armature B falls, passing the notch g , said notch g being slightly passed from below the armature and said curved extension extending a short distance beyond the notch g . When the armature B falls, the spring b engages or makes contact with the screw c and armature B , which causes the bell to ring until the indicating-needles are placed in their normal position. For the purpose of setting the indicating-needles and the drop C , the sliding bars G are provided, said bars being provided with the pins h , which pins engage the drop C , as illustrated in Fig. 6.

For the purpose of elevating the sliding bars G the cross-bar H is provided and is located below said sliding bars, as illustrated in Fig. 1.

The cross-bar H is provided with the vertical portions h' , which vertical portions are held by means of the staples h^2 .

To the cross-bar H is attached the push-rod I , which rod extends below the case.

For the purpose of causing the drop C to elevate the armature B the drop C is provided with the rounded portions J .

The screw h^4 is attached to the frame and is insulated from the frame A . The screw h^4 is for the purpose of attaching a wire to close the circuit, and also hold the end of a wire in place before the same is placed in a frame or case.

For the purpose of adjusting the shaft D the screw f is provided, which screw is attached to a portion of the frame and the end of the screw abutting against the end of the shaft D .

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

1. The combination of the magnets B' , the frame A , in which said magnets are supported, the armature B , provided at one end with the spring b , the screw c , supported in the frame A adjacent to the armature-spring, the needle-shaft D , having a needle d' , the drop C , mounted on the needle-shaft and provided with extension d and notch g , and means for elevating the drop, substantially as described.

2. The combination of the frame A , the magnets B' , attached to said frame, the screw c , supported in an extension of said frame, the armature B , provided at one end with a spring b , located adjacent to the screw c , the shaft D , provided with needle d' , the screw f for adjusting the needle-shaft, the drop C , mounted on said shaft and provided with extension d and notch g , and means for elevating the drop, substantially as described.

3. The combination of the frame A , the magnets B' , and screw c , supported by said frame, the armature B , having at one end a spring b adjacent to the screw c , the needle-shaft D , the needle d' , the drop C , having notch g and curved extension d , the battery A^3 , the wires a' a^4 , push-button a^5 , bell E , and switch F , substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MANIAS GARL.

Witnesses:

F. W. BOND,
E. A. C. SMITH.