(No Model.)

G. E. PAINTER.

ELECTRICAL ANNUNCIATOR.

No. 348,045. Patented Aug. 24, 1886.

Fig. 1.

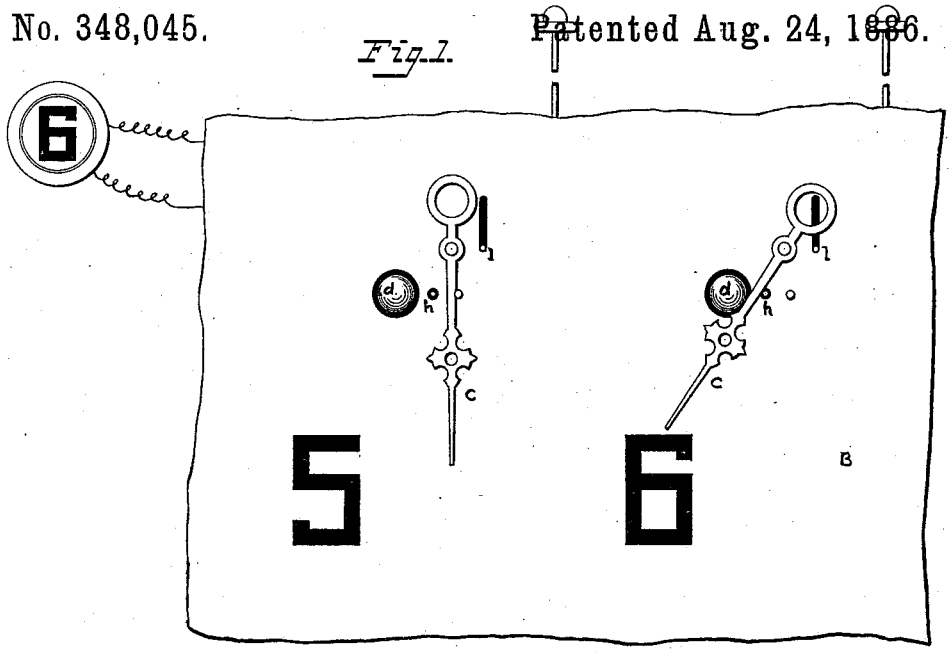


Fig. 2.

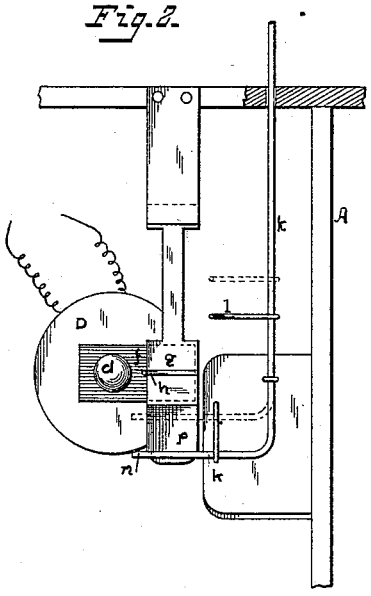
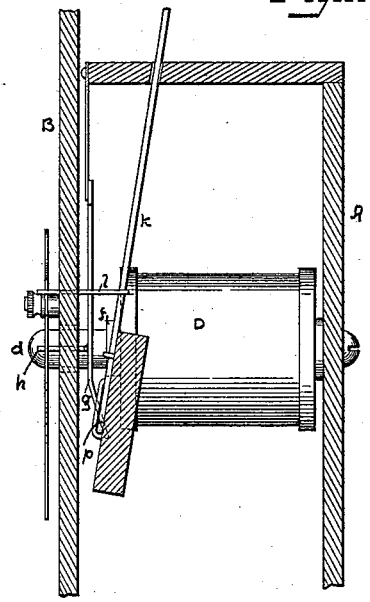


Fig. 3.



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UNITED STATES PATENT OFFICE.

GWYNNE E. PAINTER, OF BALTIMORE, MARYLAND.

ELECTRICAL ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 348,045, dated August 24, 1886.

Application filed October 31, 1885. Serial No. 181,500. (No model.)

To all whom it may concern:

Be it known that I, GWYNNE E. PAINTER, of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Electrical Annunciators; and I do hereby declare that the following is a full and accurate description of the same.

This invention relates to that class of electrical annunciators wherein a pendent index is deflected by an electro-magnet temporarily excited to attract attention to the number or sign indicating the locality which demands attention. The period of excitation is frequently very short, so that the index is attracted for an instant only, and the residual magnetism in the core is seldom sufficient to hold the index in its position of deflection sufficiently long to secure attention.

The object of my invention is to provide a lock to hold the index in its position of deflection until released by act of the attendant.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of my indexes and lock. Fig. 2 is a plan of one indicator. Fig. 3 is a side elevation of the same.

A is the inclosing-case of my annunciator, B being the dial, and C one of the pendent indexes pivoted to the dial.

D is a small single-spool electro-magnet with a long core, *d*, projecting out through the dial.

The pendent index constitutes or is carried by an unpolarized armature, and hangs a little ways at one side of said magnet-core, but not out of the magnetic field, so that whenever the magnet is excited the index will be attracted and deflected. To catch and lock the index when so deflected, I attach to the core *d* a side arm, *f*, of soft iron, and above it, mounted on a delicate spring, a small armature, *g*, which carries a pin, *h*, the normal position of which is close to the index, but between it and the core *d*. When the core *d* becomes magnetic, the arm *f* becomes magnetized also, and the index C and armature *g* are simultaneously attracted. The depression of said armature removes the pin *h* from its position by the side of the index, and permits said index to swing freely to the core passing over said pin. When the core is discharged of its magnetism, the armature moves outward again, carrying the pin with it to the outer side of the index, which is thereby prevented from resuming its normal perpendicular position. This is an automatic lock, to maintain the index in its position of deflection until it shall be observed and released by the attendant.

Any proper or usual device for restoring the index to its normal position may be employed. I prefer the ordinary push-bar, *k*, with its pin *l*, to engage the side of the circular head of the index or some other proper portion thereof, and forcibly move it to its normal perpendicular position. At the same time a pin or cam, *n*, on said push-bar engages an inclined cam-surface, *p*, on the armature *g* or its arm, and depresses the same with its pin *h*, to permit the index to pass again over the same. When the push-bar *k* returns to its normal position, it leaves the index with its magnet and lock in initial position, ready for another impulse.

Having described my invention, I claim—

1. In an electrical annunciator, an electro-magnet with a projecting core and an unpolarized armature suspended within the field of said magnet, and carrying an index, combined with a spring-retracted armature and a pin or stud attached thereto normally located between said index and core, whereby when said magnet is excited the armature and pin will be depressed by the same impulse which causes said index to swing, and at the discontinuance of said impulse said pin will assume a position on the opposite side of said index, to prevent its return to to its initial position, for the purposes set forth.

2. In an electrical annunciator, an electro-magnet and pivoted index suspended in the magnetic field, combined with the arresting-pin carried by an unpolarized armature in the same magnetic field, whereby said index is locked against movement by residual magnetism in one direction and against movement by gravity in the other, substantially as set forth.

3. The electro-magnet D, the pivoted index C, suspended in the magnetic field, combined with the armature *g*, also in the magnetic field, and arresting-pin *h*, carried by said arm and controlled by the same electrical impulses which move the index, whereby said index is

prevented from deflection in advance of the electrical impulses and prevented from returning to its initial position after said impulses.

4. The electro-magnet D, provided with the lateral arm *f*, the pivoted index C, hanging in the field of said magnet, the armature *g*, mounted on a spring above said lateral arm *f*, and the pin *h*, carried by said armature, for the purposes set forth.

5. The electro-magnet D, the pivoted index C, hanging in the field of said magnet, the armature *g* and arresting-pin *h*, carried thereby, and the cam *p*, attached to the armature, combined with the push-bar *k*, provided with the push-pin *l* and the cam *n*, whereby the arresting-pin *h* is depressed and said index is forcibly returned to its initial position by the same movement.

GWYNNE E. PAINTER.

Witnesses:
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CHARLES H. BOND.