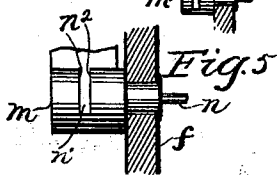
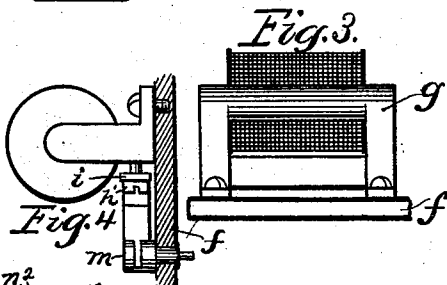
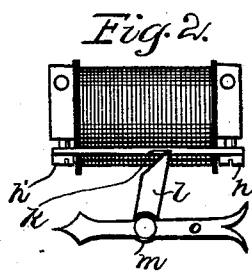
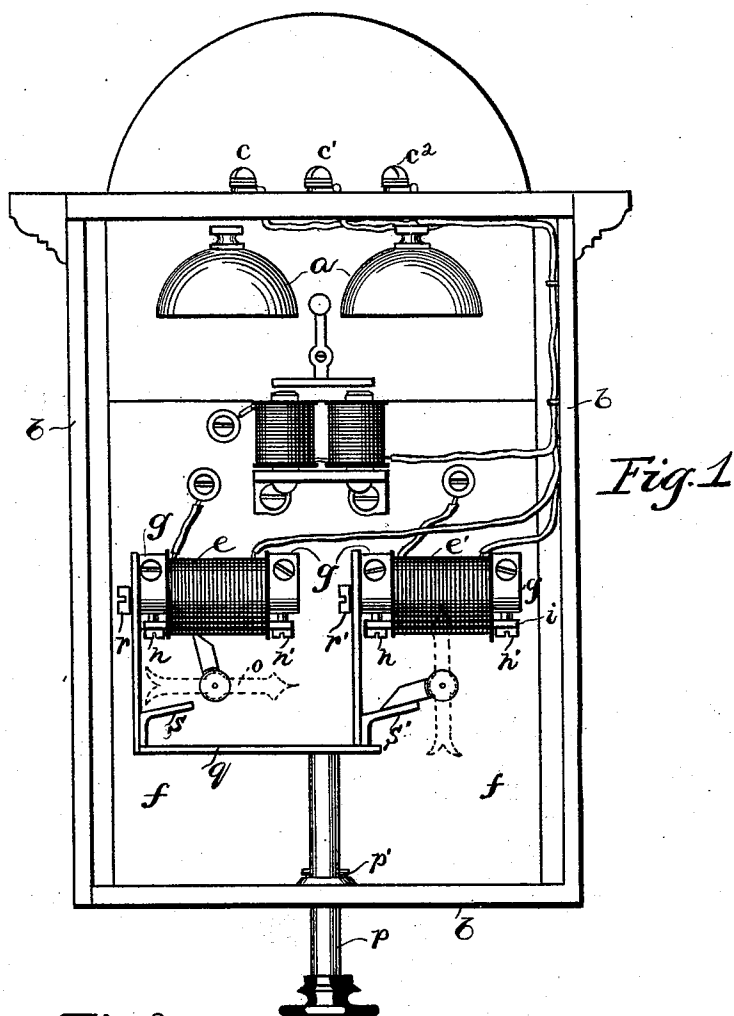


(No Model.)

T. J. THOMPSON.
ANNUNCIATOR

No. 521,144.

Patented June 5, 1894.



Witnesses:
George L. Cragg
Ella C. Cragg

Inventor,
Thomas J. Thompson
by Barton & Brown
Attys.

UNITED STATES PATENT OFFICE.

THOMAS J. THOMPSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO JULIAN M. McDERMID.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 521,144, dated June 5, 1894.

Application filed September 30, 1891. Serial No. 407,245. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. THOMPSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Annunciators (Case No. 1), of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to electric annunciators, and its objects are to cheapen and simplify their construction, and at the same time make them reliable and efficient in action.

Heretofore various constructions of annunciators have been employed, and quite satisfactory results have been obtained. The constructions have been varied to meet the various conditions of use. A single spool annunciator capable of operation under currents varying greatly in strength and operating simply by gravity without the aid of springs of any kind has not heretofore been employed.

My invention herein consists in a single spool surrounding the core, the core being extended at the ends to form opposite poles in combination with an armature provided with a catch loosely mounted on adjustable screws extending downwardly from the end faces of the poles of the electro magnet, and a latch connected with the indicator or needle which is normally in engagement with the notch in the armature, but when the armature is attracted, is released, and being weighted falls and so turns the needle. When several annunciators or numbers are placed in the same case I provide in connection with the latches a frame carrying stops for limiting the movement of the latches respectively when released. This frame is provided with a handle so arranged that by pressing upon the handle any annunciators which have been operated, whether one or more, may be promptly restored. I preferably mount the several numbers or individual indicators of the annunciator upon a common plate which may be of any suitable material as zinc or iron. A bearing for the shaft of each needle and latch is provided upon this plate in a manner which will be hereinafter explained.

My invention will be more readily understood by referring to the accompanying drawings, in which—

Figure 1 is a rear view of an electric annunciator provided with a signal bell and two individual numbers or indicators embodying my invention. Fig. 2 is a front view of the magnet spool showing the indicating arrow, the armature and latch as they would appear with the face of the annunciator removed. Fig. 3 is a top view of the magnet, the spool being in section. Fig. 4 is an end view of the magnet spool showing the latch and the stud upon which said latch is mounted. Fig. 5 shows the stud and pinion upon which the latch and pinion are mounted.

Similar letters of reference are used to indicate similar parts in the different figures.

The bell *a* shown diagrammatically in the drawings Fig. 1 is a form of magneto ringer. The annunciator in my invention, on account of its sensitiveness, may be operated either with the ordinary battery current or with an alternating magneto current. A different form of bell must be provided with a battery current from the one used with an ordinary to and fro magneto current. I show only one form, as the use of the other form is well known in the art.

The frame of the annunciator *b* supports and contains the various parts of the apparatus. The connecting screws *c, c', c''*, on the top of the frame, are intended for connection with the different wires of the circuit. *c''* may be considered as connected to the battery wire, the other two *c, c'* are connected to the points from which the signals are to be sent, and the electro magnets *e, e'* are preferably placed parallel with the plate *f* of the annunciator and supported thereon. The cores *g* extend beyond the spool of the electro magnet, and depending from the same are the adjustable screws *h, h'*, which support the armature *i*. Holes are cut in the armature so that it may slide freely up and down upon the supporting screws, and a notch *k* is provided with which the latch normally engages. This latch is supported upon the stud *m* by the shaft *n*, which passes through the tongue *n'* of the latch, the stud being cut away at *n''* to admit the said tongue and allow the

same to rotate through an arc of the desired number of degrees. The shaft *n* also carries the indicator arrow *o* on the face of the annunciator, the stud into which the shaft is fastened passing through the face of the annunciator, and being rigidly supported therein.

The bar *p* passes through the base of the annunciator frame resting upon the pin *p'*, and carries the frame *q*, in the perpendicular sides of which are slots which serve as guides to the frame over the screws *r*, *r'*. The stops *s*, *s'* serve to catch the latches when they are released from the armature. The stops *s*, *s'* also serve to restore the latches to their normal position in engagement with the armatures, when the bar *p* is moved upward. The same movement serves likewise to restore the indicator arrow to a horizontal position, as shown by the dotted lines at *o*, Fig. 1.

My invention admits of various modifications which will readily suggest themselves to those skilled in the art, and I therefore do not limit myself to the details of construction shown.

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

1. In an electric annunciator the combination with the single spool of the core provided with projecting ends forming the pole pieces,

adjustable screws *h*, *h'* inserted in the under faces of said poles, the armature loosely mounted on said screws, and provided with a notch, the latch *l* rigidly mounted upon the same shaft with the pointer or indicator and the stud *m* forming the bearing of said shaft, said shaft being cut away to admit the latch *l*, and permit the rotation thereof substantially as and for the purpose specified.

2. In an electric annunciator, the combination with an electro-magnet provided with a core extending beyond the ends of the helix thereof, an armature occupying a position parallel to the axis of said magnet and adapted to be moved perpendicularly to its length when said magnet is energized, a latch mounted independently of said armature and adapted to rotate by its own weight, said armature being provided on its under surface with a notch adapted to be engaged by said latch, and an index finger secured to said latch; whereby when said magnet is energized the armature is raised to release the latch, substantially as described.

In witness whereof I hereunto subscribe my name this 25th day of September, A. D. 1891.

THOMAS J. THOMPSON.

Witnesses:

GEORGE PRESTON BARTON,
GEORGE L. CRAGG.