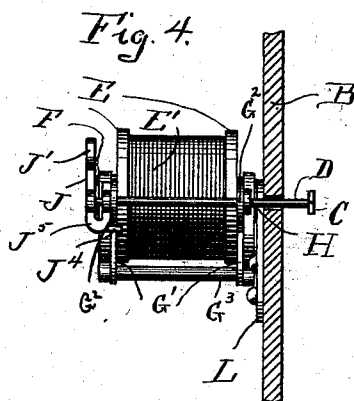
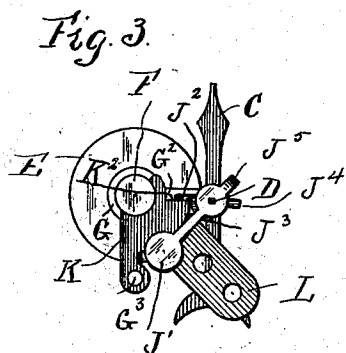
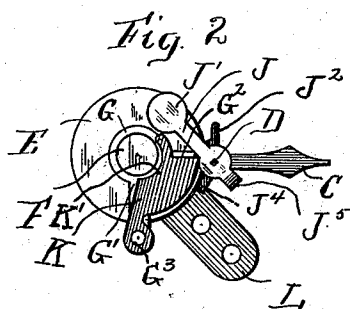
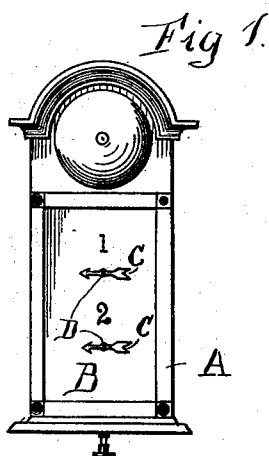


(No Model.)

J. H. McEVROY.
ANNUNCIATOR.

No. 513,592.

Patented Jan. 30, 1894.



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JOSEPH H. McEVOY, OF WATERBURY, ASSIGNOR TO THE ANSONIA ELECTRIC COMPANY, OF ANSONIA, CONNECTICUT.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 513,592, dated January 30, 1894.

Application filed May 8, 1893. Serial No. 473,493. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. McEVOY, a citizen of the United States, residing at Waterbury, county of New Haven, State of Connecticut, have invented a new and useful Improvement in Annunciators, of which the following is a specification.

My invention relates to annunciators and has for its object, to provide a cheap, simple and conveniently operating gravity needle annunciator, and the special object of my invention is to make such an annunciator, or the operative parts thereof, of such construction as that it may be easily and cheaply constructed and operate in a very efficient manner, and the further objects of my invention will be sufficiently understood from the more general description of the same as hereinafter contained.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 represents a front view of the annunciator to which my device is attached. Fig. 2 is a side view of the needle controlling magnet with the parts shown in their normal position as at rest. Fig. 3 is a similar view of the magnet and associate parts when the needle has been dropped by the action of the electric current. Fig. 4 is a rear view of the magnet.

Like parts are indicated by the same letters in all the figures.

A is the case of the annunciator; B the face thereof; C, C the needles, each on a shaft D; E, E are the end plates of the magnet, and E', the windings thereof, interposed between the end plates, which are preferably composed of insulation. F is a brass cap on the end of the core of the magnet, and associated therewith is the brass piece G, which encircles the core of the magnet beneath the cap, and has two sets of arms, G', G², radiating therefrom. The arms G', G', are connected by the cross rod G³, and the arms G², G², serve as the bearings for the transverse shaft D. On one end of the shaft D, is the needle C, and this shaft also carries the rigid washer H, and just outside the other arm G², a weighted and toothed piece, having the arm J, with weight J', and the teeth J², J³, J⁴, formed on a part of such portion which is connected with the weighted

part by the curved or bent portion J⁵. Pivoted on the extremities of the rod G³, are two armatures, K, K, shaped as shown, having the curved part K', to embrace the brass cap at the end of the armature core, and the notched part K², to successively receive the teeth J², and J³. The tooth J⁴, strikes the edge of the disk or plate E. L is a flat bar secured to one end of the magnet and adapted to be used to

secure the entire device to the inside of the face plate of the annunciator. It is evident, of course, that these parts may be somewhat altered in their proportions and construction and relations, and some might be omitted and other parts substituted therefor, without departing from the spirit of my invention, at least so far as concerns the remaining parts.

The use and operation of my invention are as follows: Assuming that the parts are in the position indicated in Fig. 2, and in this position the needle C, will be horizontal or at a position of rest. The weighted part J' is held in a suspended or elevated position by the engagement of the tooth J³, with the notch K², on the armature K, such armature being away from and out of engagement with the cap on the end of the armature core. The two armatures, there being one on each end of the magnet, are rigidly associated together, being rigid upon the opposite extremities of the rotatable rod or shaft G³. If, now, a current of electricity be passed through the magnet, it will be energized, and the two pivoted armatures will be drawn up in contact with the caps at the ends of the armature core. This frees the weighted needle shaft by the disengagement of the notch K², from the tooth J³, and the parts will drop into the position indicated in Fig. 3, the needle assuming a new position. I have not shown the mechanism for raising the weighted lever or arm for any mechanism will answer for that purpose, the ordinary push rod being preferred, though of course the weighted lever could even be raised by hand. The current having discontinued flowing, the weighted arms on the needle shaft are pushed upwardly. They are limited in their upward motion by the engagement of the tooth J⁴, with the edge of the disk of the plate, which forms the end of the magnet spool. At the same time the two armatures K, K, at

the extremities of the shaft G^3 , fall away from the brass ends or caps on the core of the magnet and into the position indicated in Fig. 3, where the parts are again locked ready for their movement when required. It will be seen that the weighted arm, and the fingers which act as stops for the needle shaft in its several positions, are formed from a simple piece of metal bent over and rigidly secured upon the shaft. This metal may be stamped out from a single piece. It will also be seen that the fingers are so arranged that the annunciator needle travels through ninety degrees, though, of course, a greater or less distance of travel could be used if desired. It will also be seen that the two armatures are situated so that the weight of both of them is at one side of the armature core, and at one side, also, of the support, so that they readily fall away from the armature core ends. These armatures are preferably of magnetic iron. The core ends being of brass, or of any other non-magnetic material, will easily free the armatures or permit them to fall away. The caps on the ends of the core and the encircling piece and the projecting arms may be stamped of a single piece, one for each end.

It will be observed that by the use of the two armatures on the same shaft, the strength of both ends of the magnet is utilized.

I have shown my device, as illustrated, in its application to an annunciator, though the operating mechanism might, of course, be used for very many other purposes, and I do not wish to be limited to its application to an annunciator, but I desire to lay claim to the several features of construction, and the relation between the armatures and magnets and their locking and associated parts. The two armatures are preferably placed upon an iron shaft and connected thereby.

I claim as my invention the following:

1. The combination of a simple spool magnet with armatures at the end thereof, rigidly connected and supported beneath the core of the armature by a shaft supported by said core, and having upwardly projecting parts at one side of such core and adapted to embrace the ends thereof, so that the two armatures lie on one side of the vertical plane passing through their support.

2. The combination of a simple spool magnet with armatures at the ends thereof, rigidly connected and supported beneath the core of the armature by a shaft supported by

said core, and having upwardly projecting parts at one side of such core and adapted to embrace the ends thereof, so that the two armatures lie on one side of the vertical plane passing through their support, said armatures made of iron and connected and supported on an iron shaft.

3. The combination of a simple spool magnet with armatures at the ends thereof, rigidly connected and supported beneath the core of the armature, and having upwardly projecting parts at one side of such core and adapted to embrace the ends thereof, so that the two armatures lie on one side of the vertical line passing through their support, a needle shaft provided with fingers and a projection or shoulder on the armature to engage such fingers, whereby the needle shaft is supported in both positions.

4. In an annunciator, the combination of an annunciator needle with a shaft on which it is supported, and a weighted arm and fingers on the other end, consisting of a single piece through which the shaft passes twice, and one part of which is provided with the fingers and the other part with the projecting weighted arm.

5. In an annunciator, the combination of an annunciator needle with a shaft on which it is supported, and a weighted arm and fingers on the other end, consisting of a single piece through which the shaft passes twice, and one part of which is provided with the fingers and the other part with the projecting weighted arm, two of such fingers adapted to engage the magnet armature and arrest the needle in its two positions, and a third to engage a fixed part of the magnet and stop the needle from moving too far when returning to its position of rest.

6. An annunciator consisting of a magnet, a laterally supported armature at both ends thereof and provided with a shoulder, a needle, a shaft on which the needle is secured, and a device at the other end of the shaft, consisting of a part through which the axis of the shaft passes twice, said part containing a weighted arm and a series of fingers adapted to engage the armature and arrest the needle in its two positions, and prevent it from moving too far in either direction.

JOSEPH H. McEVOY.

Witnesses:

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