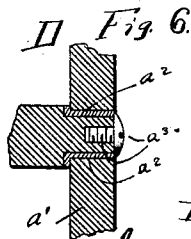
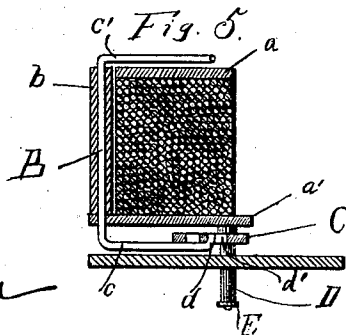
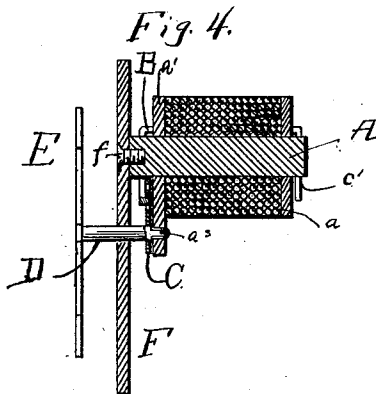
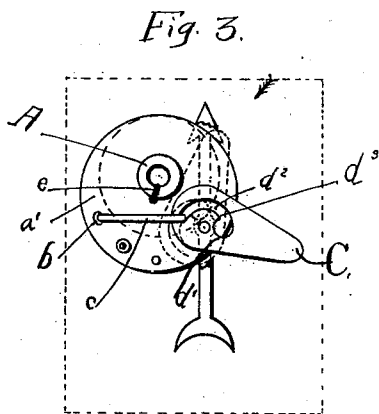
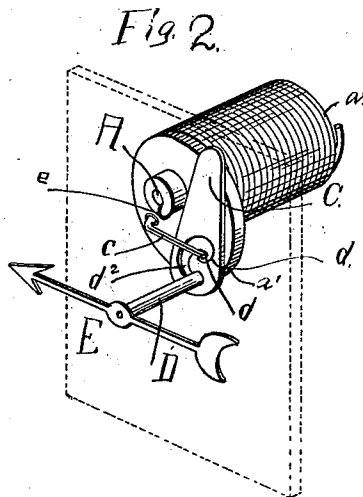
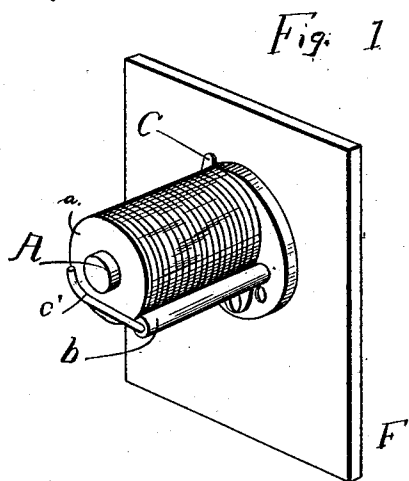


(No Model.)

M. GARL.
ANNUNCIATOR.

No. 513,775.

Patented Jan. 30, 1894.



Witnesses:
S. P. Cross.

A. D. Moore

Inventor:

Mammy Garl
By Fred W. Bond
att'y

UNITED STATES PATENT OFFICE.

MANIOUS GARL, OF AKRON, OHIO.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 513,775, dated January 30, 1894.

Application filed June 28, 1893. Serial No. 479,071. (No model.)

To all whom it may concern:

Be it known that I, MANIOUS GARL, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have 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 had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view of the annunciator showing the same somewhat enlarged. Fig. 2 is a view of the annunciator proper showing the gravity arm set to the normal position and illustrating the normal position of the armature. Fig. 3 is an end view of the annunciator showing the gravity arm and the armature dropped. Fig. 4 is a longitudinal section of the annunciator proper. Fig. 5 is a longitudinal section of the annunciator showing the position and arrangement of the armature. Fig. 6 is an enlarged view showing a portion of the indicator shaft, and illustrating the manner of attaching said indicator shaft to its flange.

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

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

In the accompanying drawings A represents the magnet to which are attached the flanges *a* and *a'*, which flanges form ordinary spools to receive the wire. The flange *a'* is extended upon one side of the spool proper as illustrated in the drawings, and is so extended for the purpose hereinafter described. It will be understood that the flanges *a* and *a'* may be formed of any suitable insulating material, or said flanges may be formed of metal if desired. To the flange *a'* is securely attached in any convenient manner the tube *b*, which tube is formed of a length to correspond substantially with the length of the spool proper; but it is not absolutely necessary that the tube should be of such a length, as it will be understood that a tube of shorter length will answer the purpose hereinafter described.

The tube *b* is for the purpose of holding in proper position the armature B, which armature is provided with the arms *c* and *c'* said arms extending from the tube *b* under the magnet A, said arms being best illustrated in Fig. 5. It will be understood that by providing the arms *c* and *c'*, a compound or double armature is provided thereby producing more positive movements of the armature. The arm *c* is provided with the catch or hook *d*, which catch or hook is for the purpose of engaging the notch or recess *d'* which notch or recess is formed in the gravity arm C. The gravity arm C is also provided with the curved slot *d''* which curved slot is located and arranged as illustrated in Figs. 2 and 3. For the purpose of holding the gravity arm C in an elevated position as illustrated in Fig. 2 the rib *d'''* is provided. The gravity arm C is securely attached to the indicator shaft D, which indicator shaft is pivotally connected to the flange *a'*. The indicator E is securely attached to the indicator shaft D in any convenient and well known manner. For the purpose of holding the arms *c* and *c'* of the armature B out of direct contact with the magnet A, the spool or magnet wire *e* is extended under the exposed end of the magnet substantially as illustrated in Figs. 2 and 3. The insulating material of said wire is removed thereby causing said exposed portion of the wire to act as a magnet in conjunction with the magnet A. The object of providing the extended portion *e*, and locating it as shown is to prevent the arms *c* and *c'* from becoming too heavily magnetized, as it will be understood that said arms do not at any time come in direct contact with the magnet A, said arms being held away from the magnet to the extent of the thickness of the extended wire *e*; but at the same time said arms are in such close proximity to the magnet that it will attract said arms when the magnet is properly charged with electricity. It will be understood by providing the two arms *c* and *c'* and locating them as illustrated that the magnet A will have double the attracting power, as two armatures are employed in place of one, thereby providing an armature proper that can be operated with less force or about one half battery power. In use the gravity arm is placed in the position illustrated in

Fig. 2, which is the normal position, which position allows the arm *c* to drop into the notch or recess and thereby hold said gravity arm in the elevated position illustrated. When an electrical current is received the magnet will attract the arms *c* and *c'* thereby lifting the catch or hook *d* out of the notch or recess *d'* thereby permitting the gravity arm to drop to the position illustrated in Fig. 3.

- 10 For the purpose of providing a better bearing for the indicator shaft D and at the same time preventing the gravity arm from coming in direct contact with the flange *a'*, the collar *a²* is provided and located substantially as illustrated in Fig. 6. The indicator shaft D is held in proper position with reference to the flange *a'* by means of the screw *a³*. The back plate F is formed of metal thereby forming a conductor to complete the circuit. In the drawings but one annunciator proper is illustrated, but it will be understood that any desired number of annunciators may be employed or attached to the case. It will also be understood that the inner end of the curved slot *d²* will act as a stop to the gravity arm by means of said inner end of the slot coming in contact with the hook *d*. The magnet A together with its different parts is attached to the plate F by means of the screw *f* or its equivalent.

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

1. The combination of the magnet A pro-

vided with flanges and wire, the extended wire *e* located below the magnet, the armature B provided with the arm *c* and hooked arm *c'*, the gravity arm C provided with the notch or recess *d'*, the curved slot *d²*, and the rib *d³*, and an indicator shaft having attached thereto an indicator, substantially as and for the purpose specified.

2. The combination of the magnet A provided with flanges *a* and *a'*, and wire, the tube *b* fixed to the flange *a'* and carrying the armature B, the armature B provided with the arm *c*, and hooked arm *c'*, the gravity arm C provided with the notch or recess *d*, the curved slot *d'*, and the rib *d²*, and an indicator shaft provided with an indicator, substantially as and for the purpose specified.

3. The combination of the magnet A provided with flanges, the collar *a²*, the indicator shaft provided with an indicator, an armature provided with arms extended below the magnet, the extended wire *e* located below the magnet, the arm *c* and hooked arm *c'*, the gravity arm C provided with the curved slot *d'*, and the rib *d²*, substantially as and for the purpose specified.

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

MANIOUS GARL.

Witnesses:

JESSIE HARE,
F. W. BOND.