(No Model.)

F. E. FISHER.

ANNUNCIATOR.

No. 383,566. Patented May 29, 1888.

Fig. 4

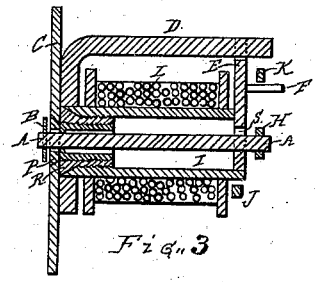

Fig. 3

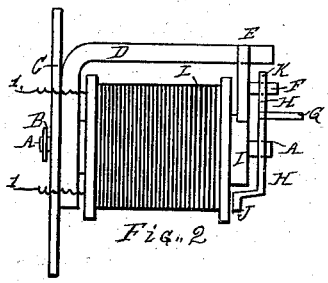

Fig. 2

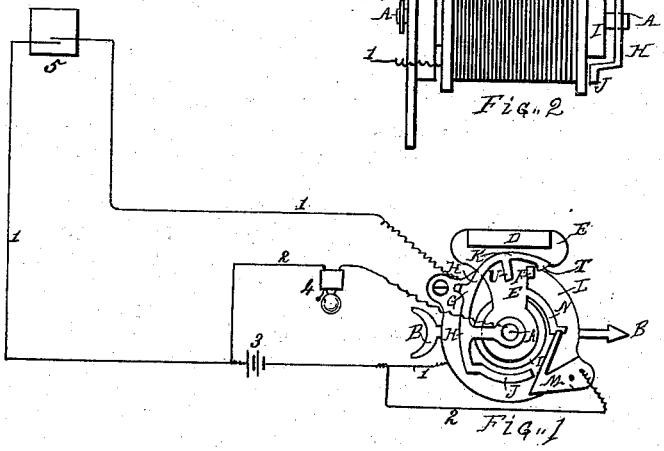

Fig. 1

Witnesses.
Chas. E. Lothrop
Emma Heselbacher.

Inventor.
Frank E. Fisher.
By his Attorney.
Geo. H. Lothrop.

UNITED STATES PATENT OFFICE.

FRANK E. FISHER, OF DETROIT, MICHIGAN.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 383,566, dated May 29, 1888.

Application filed October 25, 1887. Serial No. 253,357. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. FISHER, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Annunciators, of which the following is a specification.

My invention consists in an improvement in annunciators, hereinafter fully described and claimed.

Figure 1 is a rear elevation; Fig. 2, a side elevation. Fig. 3 is a longitudinal central section, and Fig. 4 is a detail.

I D represent the two legs of a magnet, fastened together by the hollow screw R, the leg I being hollow, as shown in Fig. 3.

E represents a diamagnetic plate secured to the rear end of the magnet and having thereon a detent, F.

C represents a metal plate forming the front of the annunciator, to which the magnet is secured by the hollow screw P, which engages with the thread on the inside of the hollow screw R.

A represents a diamagnetic needle-bar, which passes through the leg I of the magnet and hollow screw P and is journaled in the plates E C, the bearing in plate E being elongated, as shown at Fig. 4, to permit a slight vertical motion of bar A, as well as a rotary motion.

B represents an ordinary needle secured to the end of bar A.

H represents an armature secured to the rear end of the needle-bar A. This armature is formed with a downward extension, J, which lies under and is in proximity to the rear end of leg I, and with an upward extension, K, on which is formed a ratchet-tooth, T, adapted to engage with detent F, and also a projecting lug, U, to limit the range of motion of the armature by striking against said detent F if the armature is moved too far.

G represents a projecting pin on the armature H, by which it can be restored to place by the lifting-bar commonly used in annunciators.

N represents a projecting lug on plate E, lying in the circular path of end J of the armature to prevent the armature from swinging too far when the tooth is released from detent F.

M represents a light diamagnetic spring secured to the end of the magnet-bobbin L, against which the end of the armature H strikes when the armature is released, and its purpose is to make a local contact for the continuous ringing attachment of a burglar-alarm.

L represents the ordinary magnet-bobbin of insulated wire, wound on leg I of the magnet and provided with the ordinary binding posts or screws.

When the needle-bar A is placed in the position shown in Fig. 1, in which the needle B does not point to a number, the weight of the needle bar and armature H causes the needle-bar to lie at the lower end of the slot S, and tooth T engages with the detent F and holds the armature in position. If, now, a current be passed through the bobbin L, the magnet I D becomes energized, the pole I attracts the end J of the armature, and the pole D attracts the end K of the armature, thus raising the armature until the tooth T is disengaged from the detent F, when the weight of the armature, being principally at one side of its axis, rotates the needle-bar A and needle B until the end J comes in contact with the spring M, or, if that is broken, with the projection N. When the current ceases to pass through bobbin L, the magnet loses its energy, and on raising the armature H by the projection G the tooth again engages with detent F, ready for another signal.

The circuit of the magnet I D is denoted in Fig. 1 by the numerals 1 1 and the circuit of the alarm 4 by the numerals 2 2. The battery 3 is included in both circuits. When the main circuit is closed in the room 5, the magnet is energized, the armature is raised and released from the detent and swings around and makes contact with spring N, thereby closing the local circuit 2, which short-circuits the current and sounds the alarm as long as the armature and spring N remain in connection.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the magnet I D, the diamagnetic plate E, having thereon the detent F and the slot S therethrough, the needle-bar A, passing through slot S and leg I of the magnet, and an armature, H, secured to the end of the needle-bar A, having thereon the tooth T and extending near to both poles of the magnet, substantially as shown and described.

FRANK E. FISHER.

Witnesses:

CYRUS E. LOTHROP,

EMMA HESSELBACHER.