(No Model.)

W. H. ADKINS.

SIGNAL RECORDING DEVICE.

No. 527,258. Patented Oct. 9, 1894.

Fig. 1.

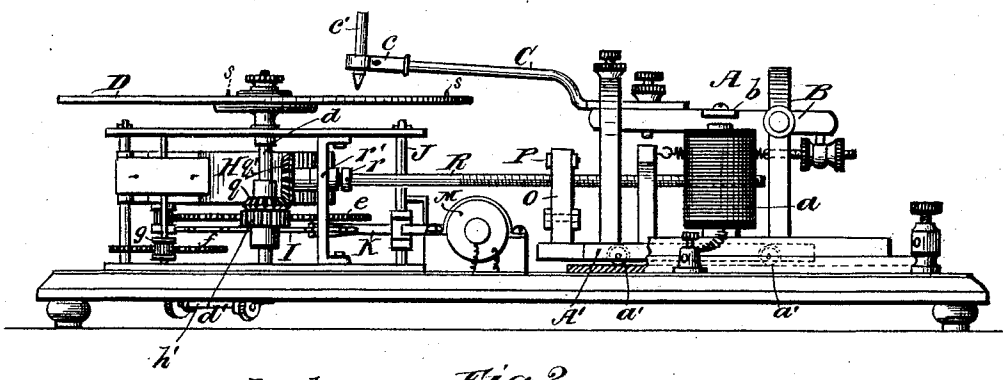


Fig. 2.

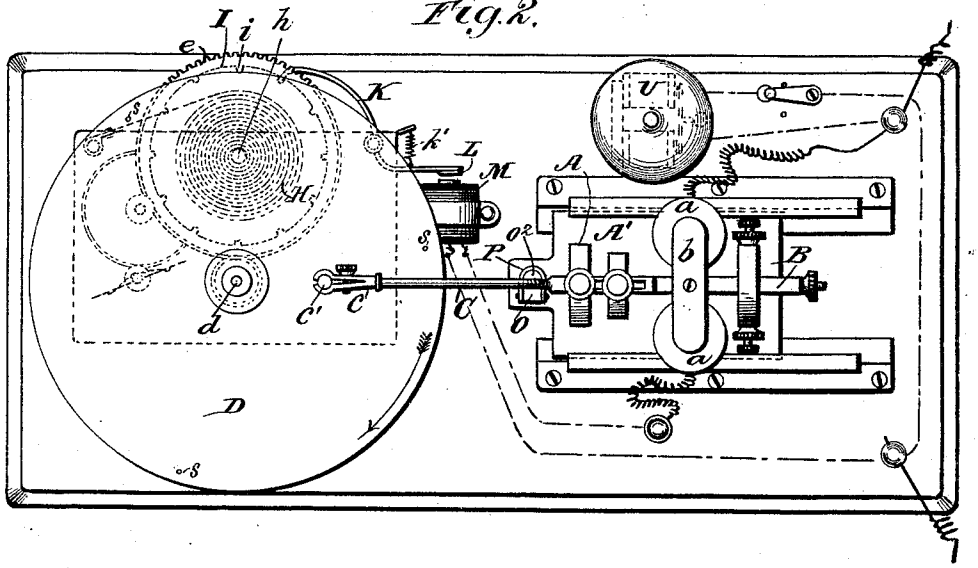


Fig. 3.

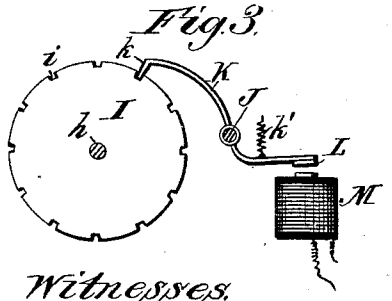
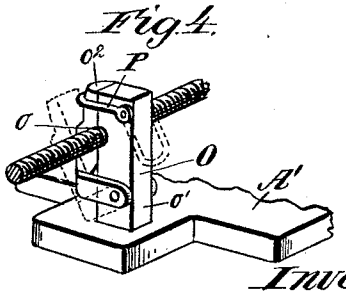


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SIGNAL-RECORDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 527,258, dated October 9, 1894.

Application filed December 29, 1893. Serial No. 495,120. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ADKINS, a citizen of the United States, residing at Rome, in the county of Floyd and State of Georgia, have invented new and useful Improvements in Electrical Recording Signaling Devices, of which the following is a specification.

My invention, relates to an improved electric register and more especially to that class of signaling systems employing a central office or station and a number of signaling stations electrically connected to the central station at which latter station the signals sent in from the signal stations are automatically recorded.

In such systems there are commonly employed a recording disk rotated by clock work and a pencil, or similar marking device, operated by the signaling apparatus to record upon the rotating disk the signals sent from the stations, and it is the object of the present invention to provide a registering device of this nature that shall be simple and inexpensive in construction and efficient and reliable in operation.

To these ends my invention consists in the novel construction, combination, and arrangement of parts hereinafter fully described and afterward definitely pointed out in the claims, due reference being had to the accompanying drawings forming a part of this specification, wherein—

Figure 1 is a side elevation of my improved device; Fig. 2, a top plan view; Fig. 3, a detail view of the motor releasing device, and Fig. 4 a similar view of the split-bearing for the shaft R.

Referring to the drawings the letter A indicates an ordinary telegraphic sounder comprising the magnets *a*, and armature lever B carrying the armature *b* arranged and operating in the usual manner.

To the armature lever B is secured an arm C carrying at its outer extremity a clutch *c* adapted to hold a pencil *c'* for recording the movements of the armature upon a rotating slate, in the manner hereinafter described.

The base A' of the sounder A is mounted on rollers *a'*, *a'*, and is adapted to be moved back and forth between suitable guideways, carrying with it the sounder and pencil.

D indicates the slate registering disk secured to the upper end of an arbor *d* carrying a small pinion *d'* which forms a part of a train of gearing *e*, *f*, *g*, driven by a clock spring H mounted on a shaft *h* which latter is provided with a winding shaft *h'*. On the shaft *h* is mounted an escapement wheel I provided upon its periphery with a series of notches or recesses *i*.

J indicates an upright shaft journaled in the frame of the motor and carrying an escapement arm K which at one end is provided with a detent *k* adapted to engage the recesses or notches in the escapement wheel I and prevent the operation of the clock movement, a spring *k'* being secured to said arm at one end and at its other end connected to the frame of the motor and operating to force said detent into engagement with the notched periphery of the escapement wheel I.

To the other end of the escapement arm K is secured an armature L, and opposite said armature is arranged an electro-magnet M connected in series with the sounder A as shown.

Upon the base A' of the sounder A is mounted a pillar O consisting of two upright members *o'*, *o*², one of which as *o'* is fixed to said base, and the other *o*², is hinged thereto, said members being provided with screw-threaded recesses *o* and held together by a ring or loop P, as hereinafter described.

Upon the arbor *d* is fixed a bevel gear *q* which gears with a similar bevel gear *q'* fixed upon one end of a shaft R which is screw threaded and passes through the screw threaded recesses *o* in the pillar O.

The slate D is provided upon its upper side near its periphery with pins *s* which serve to hold disks of paper or cardboard, when it is desired to keep a permanent record of the signals.

The operation of my improved device is as follows: The pencil *c'* rests over the slate disk D and is normally held out of contact therewith by the armature lever B. When a signal is sent over the line the armature *b* is attracted by the magnet *a*, and the pencil *c'* is brought into contact with the upper surface of the slate. At the same time the electro-magnet M is energized and attracts the armature L, thus disengaging the detent *k* from the escapement wheel I, which latter is ro-

tated by the spring H, and through the medium of the gearing *e*, *f*, *g* rotates the slate disk D upon which the pencil bears as long as the armature *b* is held down by the magnet *a*, the movement of the pencil corresponding with the movement of the armature. The rotation of the slate disk D will continue until the next notch *i* of the escapement wheel I arrives opposite the detent *k* when said detent will engage the notch and arrest the motion of the motor, and if the signal or message has not been completed the next movement of the armature lever will again release the motor to continue the rotation of the disk, as before described. As the disk D rotates, the shaft R is also rotated by the gears *q*, *q'* and through its engagement with the screw threaded recesses in the pillar O, moves the sounder A away from the slate disk D, thus causing the pencil *c'* to record the signals upon the slate in a spiral line, whereby the entire surface of the slate may be utiized. In order to prevent endwise movement of the shaft R, I affix upon the latter a collar *r*, which works in a bearing *r'*, secured to the frame of the motor. I also prefer to employ an alarm to give notice when a signal is being sent through the sounder, and to this end locate an electric bell U, in the same circuit with the sounder and magnet M, so that the moment the circuit is closed the alarm will be sounded. I may also employ a switch for cutting out said bell during the transmission of the calls or messages. When the surface of the slate has been completely filled by the recorded signals, the split nut is disengaged from the screw threaded shaft by removing the fastening ring or loop and the carriage run back toward the slate until the pencil point again rests over the center of the slate, when the apparatus is again ready for operation, the previous records having first been erased from the slate disk, or a new paper disk applied thereto.

What I claim is—

1. In an electric recording signaling system, the combination with a rotary recording disk, and a motor for actuating the same, of a sliding carriage actuated by said motor to travel away from said disk, a magnet and its armature carried by said carriage, a pencil holder actuated by the armature, and mechanism for releasing said motor actuated by the electric signals, substantially as described.

2. In an electric recording signaling system, the combination with a rotary recording disk, of a sliding carriage carrying a magnet and its armature, a pencil holder carried by said armature, a motor for rotating said disk and actuating said carriage, and an electric starting device for said motor connected in series with the magnet actuating the pencil holder, substantially as described.

3. In an electric recording signaling system, the combination with a rotary recording disk, of a sliding carriage carrying a magnet and its armature, a pencil holder carried by said armature, a motor for rotating said disk and actuating said carriage, a detent normally holding said motor inactive and carrying an armature, and a magnet connected in series with the magnet actuating the pencil holder for releasing the detent, substantially as described.

4. In an electric recording signaling system, the combination with an electro-magnet and its armature carrying a pencil holder, of a motor actuating a recording disk and having a notched wheel, an escapement arm engaging said wheel and carrying an armature, and an electro-magnet connected in series with the magnet actuating the pencil holder for controlling the armature of the escapement wheel, substantially as described.

5. In an electric recording signaling system, the combination with a rotary recording disk, of a sliding carriage carrying a magnet and its armature, a pencil holder carried by said armature, a motor for rotating said disk, a screw-threaded shaft driven by said motor and detachably engaging said carriage, and a stopping and starting device for the motor controlled by a magnet connected in series with the magnet actuating the pencil holder, substantially as shown and described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

WILLIAM H. ADKINS. [L. S.]

Witnesses:
B. I. HUYHM,
E. E. MAGEE.