June 15, 1937. H. C. CASSELL 2,084,242

PHONETIC ALARM SYSTEM

Filed May 22, 1935 2 Sheets-Sheet 1

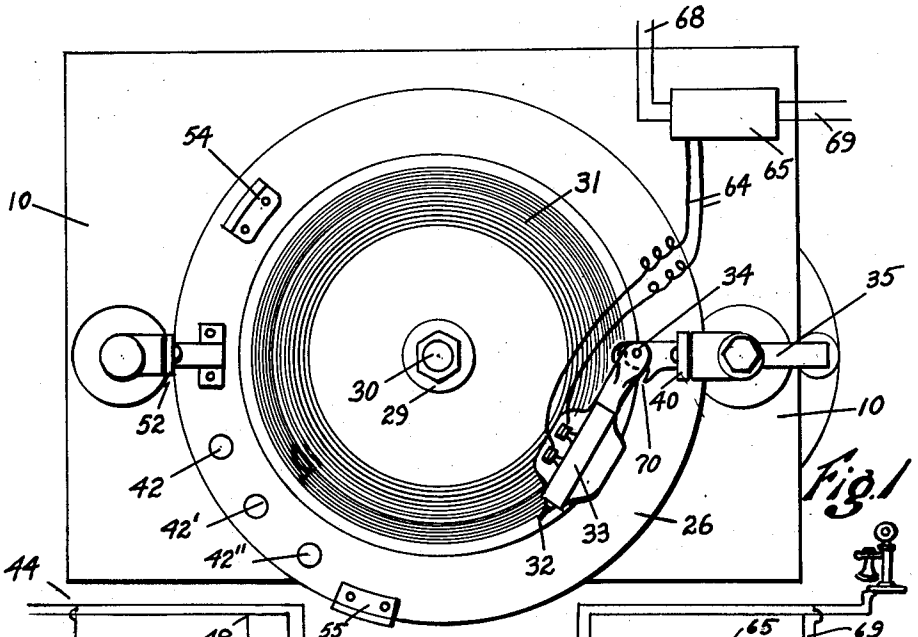


Fig. 1

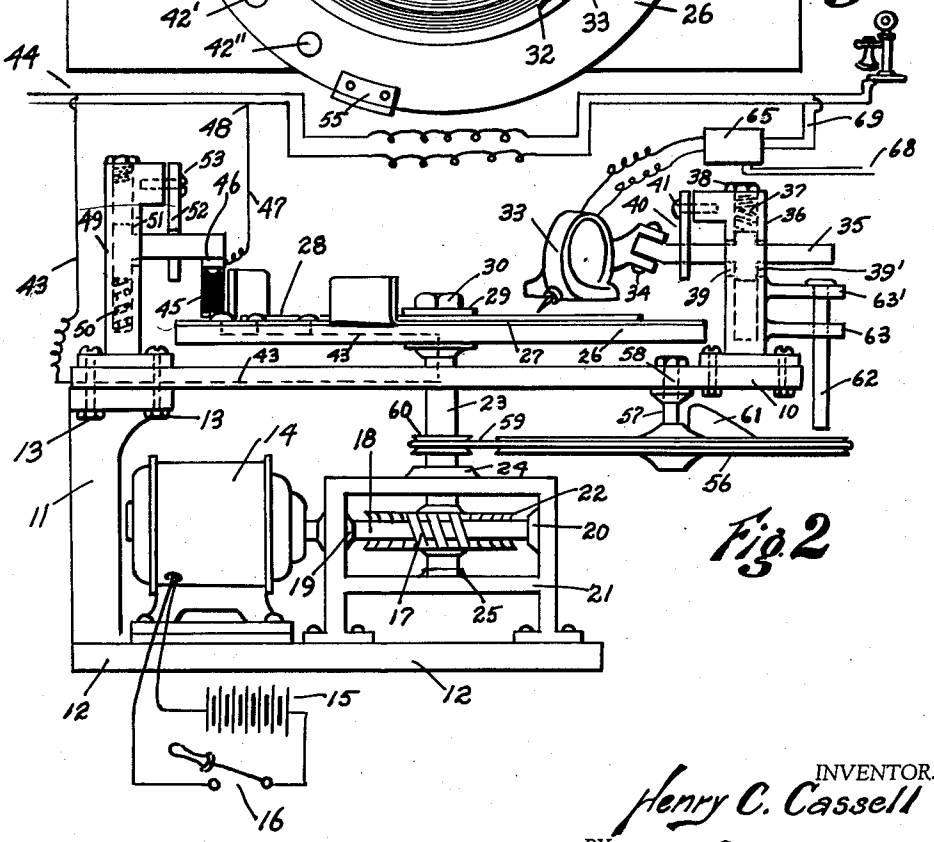


Fig. 2

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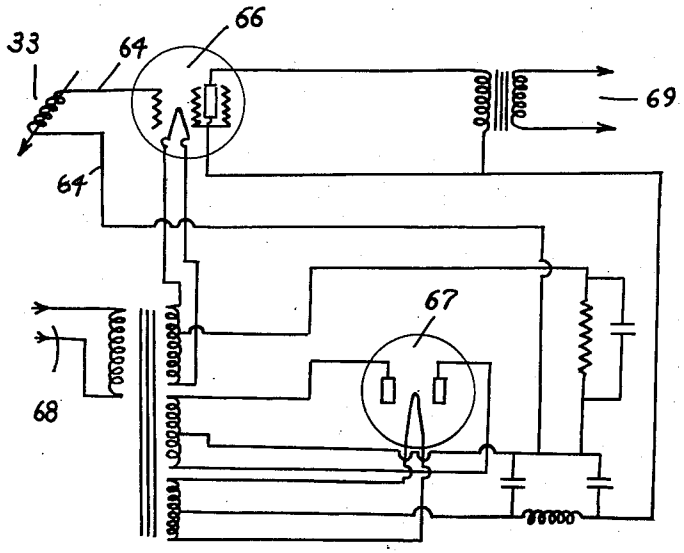


Fig. 3

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PHONETIC ALARM SYSTEM

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2 Claims. (Cl. 179—5)

My invention relates to alarm systems in which a verbal announcement constitutes the alarm.

An object of my invention is to provide a means for setting a device in motion, said device to signal the operator at the telephone exchange and repeatedly transmit a message.

Another object of my invention is to provide a device as described, that is adaptable for use where the dial system is employed at the telephone exchange.

Still another object of my invention is to provide a device as described, employing a record for transmitting the message that will automatically adjust and place into position the electro-magnetically operated transmitter for repeating the message on the record.

Further objects of my invention will become more apparent as the description proceeds, the invention consisting of the following novel features and details of construction which are more fully described and illustrated in the accompanying drawings and pointed out in the appended claims.

In the accompanying drawings

Fig. 1 illustrates a top or plan view of the device.

Fig. 2 illustrates a side view showing the arrangement of parts constituting the assembly of the device, and

Fig. 3 is a diagrammatical layout of the wiring arrangement showing the electro-magnetic transmitting device contacting the record, the amplifier tube, the rectifier tube, the wires leading from the electric power supply, and the wires leading to the telephone exchange.

Referring now to the drawings in which like characters of reference denote corresponding parts, the character 10 indicates a rectangular plate horizontally disposed and supported by a vertical standard 11, forming an integral part of a base 12 fastened to the plate 10 by a plurality of bolts 13. A motor 14 actuated by the power unit 15 furnishes the motive power to the entire unit and is set into motion when a contact 16 is completed. There is a worm 17 mounted permanently to a motor shaft 18, which shaft is supported by bearings 19 and 20, in a housing 21. The worm 17 engages a worm gear 22 mounted on a shaft 23, which is vertically disposed at right angle to the motor shaft 18 and supported by bearings 24 and 25, in the housing 21. This shaft 23 acts as a support and driving means for an annular disc 26 horizontally disposed at right angles to the shaft 23 and having an insulated plate 27 adjacent thereto. The disc 26 also acts as a support for a sound record 28 fastened to it by a washer 29 clamped down by a nut 30, contacting the threaded portion on the upper end of the shaft 23.

The sound record 28 has a series of recording impressions 31 engraved thereon. These impressions are employed to engage the needle 32 forming a part of the electro-magnetic transmitting device 33. This transmitting device 33 is hinged at 34 to a supporting arm 35, which is telescopically encased in a hollow vertical support 36 and acted on by a resilient member 37 inserted into the hollow support 36 and held in position by the threaded screw 38. The arm 35 is guided for vertical motion in slots 39 and 39' vertically aligned in the support 36, and is held in a raised position by a latch 40, which is pivotally mounted to the support 36 at 41. There is a plurality of contact points 42, 42' and 42'' on the annular disc 26 having wires shown at 43, connecting same to the telephone exchange system at 44.

Immediately above, and in radial alignment with, the contact points 42, 42' and 42'' there is a contact brush 45 mounted to a horizontally disposed projecting member 46 and connected by lead wires 47 to the telephone exchange line at 48. The support arm 46 operates in a vertical tubular support 49 and is acted upon by a resilient member 50 encased therein. It is guided in vertical alignment by a slot 51 and is kept in a downward position by a latch 52 pivotally mounted to the vertical support 49 at 53. A contact member 54, rigidly mounted to the disc 26, is radially positioned to contact the latch 40 and a contact member 55 is radially positioned on the disc 26 to contact the latch 52 when the disc is first revolved in a clockwise direction. Immediately below and parallel to the plate 10 there is a pulley 56 mounted on a vertical shaft 57 fastened to the plate 10 at 58. A belt 59 over the pulley 56 engages a pulley 60 permanently mounted to the shaft 23. This pulley 56 has a contact member 61 arranged in radial alignment to contact the member 62 slidably mounted by horizontal arms 63 and 63' forming a part of the support 36, and when the contact member 61 engages the vertical member 62 it will elevate same and thereby cause the arm 35 to rise, lifting the entire assembly including the hinged portion supporting the transmitting unit 33.

There is a series of wires 64 fastened to the transmitting unit 33 and terminating into an amplifying arrangement shown at 65 and diagrammatically illustrated in Figure 3, in which

the electro-magnetic transmitting device is characterized as 33, an amplifying tube at 66, a rectifier tube as 67, power supply leads are shown at 68 and leads terminating at the telephone exchange system at 69.

In operation the arrangement, whether it be a fusible plug, a push button, a manually operated switch, or the like, shown at 16 is set into motion and actuates the motor 14 by means of the power unit 15. The worm 17 on the motor shaft 18 turns a worm gear 22 thereby revolving the shaft 23 supporting the disc 26. As this disc 26 revolves in a clockwise direction the contact points 42, 42' and 42'' pass under and engage the contact brush 45 thereby forming a circuit with the telephone exchange and signalling the operator. In its radial course the disc 26 carries the contact member 55 directly into the path of the latch 52 thereby releasing the member 46 by means of the resilient member 50 and raising the brush 45 away from further contact with the points 42, 42' and 42''. Accordingly the contact member 54 is carried directly into the path of the latch 48 releasing the member 35 allowing same to drop, causing engagement of the needle 32 on the transmitting device 33 with the impressions 31 on the recording plate 28. This will cause a reproduction of the message in the impressions 31 to be relayed through the wires 64 and the amplifying arrangement 65 to the telephone circuit 69.

As the disc 26 revolves in a clockwise direction the pulley 60 mounted on the shaft 23 actuates the larger pulley 56 by means of the belt 59, and as the pulley 60 has approximately a 24 to 1 ratio with the pulley 56, the disc 26 will revolve for example, 24 times before the contact member 61 reaches the member 62 causing same to rise in a vertical alignment lifting the horizontal member 35 and causing the needle 32 to be raised from the impressions 31, and the weight of the transmitting unit 33, which is pivotally mounted on the angularly disposed hinge 34, will return it to its original position, being guided by the projecting member 70 on the arm 35. In this manner the message is repeated until the device is made inoperative by manually releasing the contact member 16.

In the chosen embodiments of my invention, exemplified by the accompanying drawings, there are present certain novel refinements and improvements not heretofore disclosed in the prior art, and which will be hereinafter more fully referred to and specifically pointed out in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States, is:

1. In an electric alarm system for use in connection with a standard service telephone, a motor, a revolving disc driven by said motor, a sound record on said disc, an electro-magnetic transmitter for transmitting sound recorded on said record, contacts mounted on said disc, a contact brush cooperative with said contacts for signaling the operator at said service telephone during initial revolving motion of said disc, means for moving said brush from the path of said contacts during subsequent revolving motion of said disc, a second disc driven by said motor, means actuated by said second disc for lifting and replacing said transmitter from and to sound reproducing contact with said sound record at the end of each alarm sounding interval, amplifying and rectifying means connected in circuit with said transmitter, and means controlled by said disc for effecting automatic operation of the system upon the closing of the circuit of said motor.

2. In an electric alarm system for use in connection with a standard service telephone, a motor, a revolving disc driven by said motor, a sound record on said disc, an electro-magnetic transmitter for transmitting sound recorded on said record, contacts mounted on said disc, a contact brush cooperative with said contacts for signaling the operator at said service telephone during initial revolving motion of disc, means for moving said brush from the path of said contacts during subsequent revolving motion of said disc, a vertically movable support, an arm angularly hinged at one end to said support and carrying said transmitter at its free end, a second disc driven by said motor, a cam on said second disc for raising said support and said arm to lift said transmitter from reproducing contact with said sound record at the end of each alarm sounding interval, said hinged arm being adapted to return said transmitter to its starting point on said sound record during the vertical movement of said support, amplifying and rectifying means connected in circuit with said transmitter, and means controlled by both of said discs for effecting automatic operation of the system upon the closing of the circuit of said motor.

HENRY C. CASSELL.